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THE FIFTY-SIXTH ANNUAL SESSION OF THE CALIFORNIA MEDICAL ASSOCIATION

LOS ANGELES BILTMORE, APRIL 25 TO 28

THE Los Angeles County Medical Association, through its committee of arrangements of the California Medical Association at Los Angeles, April 25 to 28 (inclusive), reports a splendid program for the meeting, in addition to the usual excellent routine work of the sections, the official business of the Council and House of Delegates. All of the committees announced in the last issue of CALIFORNIA AND WESTERN MEDICINE have their work completed or as far advanced as is possible at this date.

The session will really be opened on Sunday, April 24, by Howard A. Kelly, Professor Emeritus of Gynecology at Johns Hopkins. Doctor Kelly has been for many years a leader in Baltimore of the militant Christians who are striving for civic righteousness and religious living. He will occupy the pulpits of Los Angeles churches, morning and evening, Sunday, April 24. Hundreds of our fellows and guests will enjoy hearing this fine old Christian warrior from the pulpit as much or more than they will enjoy his address on a professional subject at the morning session on Wednesday. Howard Kelly is known to every medical man and woman in America, either personally or through his excellent textbooks on gynecology and abdominal surgery.

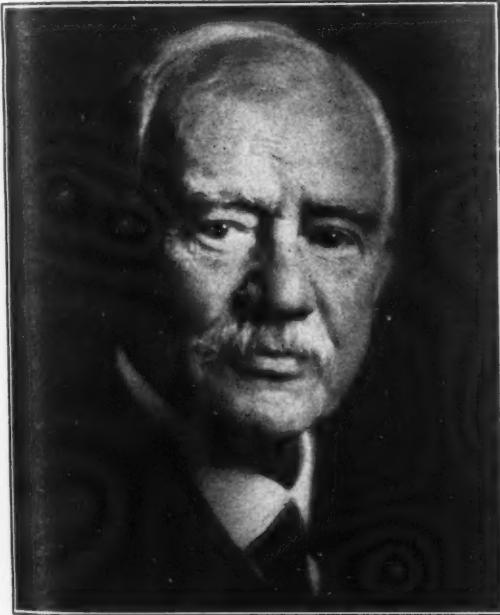
The official opening session will be held at the Biltmore Hotel Monday. President W. T. McArthur is always an interesting speaker and this year he will present some very important matters for consideration. President-Elect Percy T. Phillips will follow with a discussion of other matters of importance to all physicians.

The section officers have secured an unusual list of strong speakers. Donald C. Balfour of the Mayo Clinic will discuss "The Treatment of Gastric Ulcer." George Middleton of Salt Lake will consider "The Goiter Problem." R. S. Dinsmore of Cleveland will discuss "The Preoperative and Post-operative Care of Goiter Patients."

These men come as guests of the surgical section. H. J. Gerstenberger of Cleveland will be the guest of the section on pediatrics. Charles G. Sutherland of Rochester and Charles F. McGuffin of Calgary, Canada, will be the guests of the section on radiology. Arthur L. Bloomfield, Professor of Medicine at Stanford, is the guest of the section on medicine. All of these men are outstanding in their several sections, and will take part in the discussions as well as giving their own addresses. The subjects of these addresses as well as a complete program of the entire session will be published in the next issue of CALIFORNIA AND WESTERN MEDICINE.

For the general sessions on Tuesday and Wednesday, the Los Angeles committee has provided Howard A. Kelly, Stuart McGuire of Richmond and J. B. Herrick of Chicago. Surgeon General Hugh S. Cumming of the U. S. Public Health Service and Hubert Work, Secretary of the Interior, expect to arrive from Honolulu in time for this meeting, and they have promised to be present if their

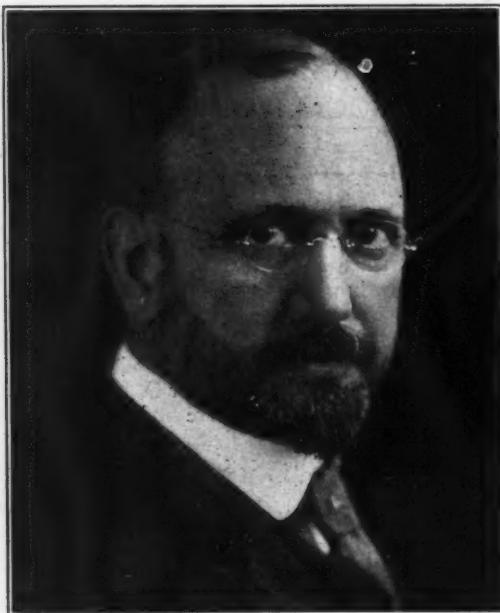
HOWARD A. KELLY

A black and white portrait of Howard A. Kelly, a man with a high forehead and receding hairline, wearing a dark suit and tie. He is looking slightly to the right of the camera.

of the section on pediatrics. Charles G. Sutherland of Rochester and Charles F. McGuffin of Calgary, Canada, will be the guests of the section on radiology. Arthur L. Bloomfield, Professor of Medicine at Stanford, is the guest of the section on medicine. All of these men are outstanding in their several sections, and will take part in the discussions as well as giving their own addresses. The subjects of these addresses as well as a complete program of the entire session will be published in the next issue of CALIFORNIA AND WESTERN MEDICINE.

itinerary will permit. It is highly probable that both will come.

W. A. Evans, formerly Health Commissioner of Chicago, formerly Professor of Pathology at the University of Illinois, now Health Editor of the Chicago *Tribune*, the sanest writer of syndicate articles on health topics in America, will be the principal speaker at a large *public meeting* at the Philharmonic Auditorium on Tuesday evening.



W. A. EVANS

Doctor Evans has the peculiar faculty of making the medical point of view interesting and attractive to public audiences. Californians need particularly such messages as Doctor Evans gives.

The scientific moving pictures, which will be shown on Monday and Wednesday nights, is a feature never before tried at a California state meeting. No picture will be shown twice. Among those already selected by Henry Snure, chairman of the subcommittee on moving pictures, will be the Interstate Post Graduate Assembly European Clinic Tour of 1926, which shows hospitals, clinics and points of interest of this tour. Further selection will be announced in the April issue of CALIFORNIA AND WESTERN MEDICINE.

It is hoped that the scientific exhibit may be made an outstanding feature of the meeting. Good space will be provided. Those wishing information should apply to W. H. Kiger, 523 West Sixth Street, Room 712, Los Angeles.

The commercial exhibit will be held at the Biltmore. It will excel that given there three years ago, which was of outstanding excellence. Address W. R. Molony, 304 South Broadway, Room 222, Los Angeles, for space.

Entertainment for visiting ladies will be pro-

vided for three afternoons. A reception will be given at the home of President and Mrs. W. T. McArthur, a visit to a working moving picture studio and a card party and tea at a country club.

The banquet and ball will be held at the Biltmore on Thursday night. It is planned that all of the living past presidents of the Association will be present. George H. Kress is in charge, a sufficient guarantee of its excellence.

C. G. Toland, chairman, and the subcommittee on golf have arranged for special games and prizes are to be awarded.

Clinics will be given in at least five hospitals, the hours ranging from 7:30 to 10.

Los Angeles welcomes the physicians of the Rocky Mountains and Pacific Slope for this meeting. It is rare indeed that a state association can present a program of such interest as is now assured. Every medical man and woman who can come will be amply repaid in rest, recreation, and professional benefit.

Complete announcement of all features will be made in the April issue of CALIFORNIA AND WESTERN MEDICINE.

The following is a list of some of the hotels of Los Angeles with rates European plan:

	Rate Per Day
Anditorium, Fifth and Olive.....	\$1.00 up
Ambassador, Seventh and Wilshire.....	4.00
Hotel Alvarado, 2065 West Sixth.....	2.00
Alexandria, Fifth and Spring.....	2.50
Biltmore, Fifth and Olive.....	5.00
Baltimore, Fifth and Los Angeles.....	1.00
Chapman, 301 East Fifth.....	1.50
The Californian, 1907 West Sixth.....	2.50
Hotel Chancellor, 3191 West Seventh Street.....	3.00
Chelsea Hotel, 504 South Bonnie Brae.....	(This includes breakfast) 2.50
Hotel Cecil, 640 South Main Street.....	1.50
Hotel Clark, 426 South Hill Street.....	3.00
Continental, 626 South Hill.....	1.00
Christie Hotel, 6732 Hollywood Boulevard.....	2.50
Commodore Hotel, 1201 West Seventh Street.....	2.50
Congress Hotel, Eighth and Flower.....	1.00
Hotel Figueroa, 939 South Figueroa Street.....	2.00
Gothan, 975 Ingraham.....	2.00
Gates Hotel, Sixth and Figueroa.....	1.50
Hayward Hotel, Sixth and Spring.....	2.00
Haggards Bachelor, 320 West Fifth Street.....	1.00
Ingraham Hotel, 1045 Ingraham.....	1.50
King Edward Hotel, 121 East Fifth Street.....	1.50
Leighton Hotel, 2127 West Sixth Street.....	2.00
Lee Hotel, 822 West Sixth Street.....	1.50
Lankershim Hotel, Seventh and Broadway.....	1.50
Mayfair Hotel, 1256 West Seventh Street.....	4.00
Munn Hotel, 438 South Olive.....	1.50
The Men's Hotel, 928 West Eighth Street.....	(per week) 7.00 up
Miramar Terrace (American Plan), 2000	
Miramar Street	2.50 up
Hotel Normandie, Sixth and Normandie.....	3.00 up
Northern Hotel, 420 West Second Street.....	1.50
Oviatt Hotel, 1315 South Flower Street.....	1.00
Hotel Park Vista, 626 South Alvarado Street.....	2.00
Ponet Hotel, 215 East Fifth Street.....	1.00
Hotel President, 907 West Second Street.....	1.00
Rosslyn Hotel, Fifth and Main Streets.....	1.50
Hotel Ritz, 813 South Flower Street.....	2.50
Savoy Hotel, Sixth and Grand Ave.....	3.00
Southland Hotel, Sixth and Flower.....	1.00
Shoreham Hotel (American Plan), 666 South	
Carondelet	5.00 up
Stowell Hotel, 416 South Spring Street.....	2.00

Stillwell Hotel, 838 South Grand Avenue.....	2.00
St. Regis, Sixth and Witmer.....	2.50
Trinity Hotel, 851 South Grand Avenue.....	1.50
Van Nuys Hotel, Fourth and Main Streets.....	1.50
Women's Hotel, 639 South Grand Avenue.....	1.00

THE ETIOLOGY AND PATHOLOGY OF CHRONIC DEFORMING ARTHRITIS

AS FORECAST BY CLINICAL AND LABORATORY
OBSERVATIONS †

By JOHN V. BARROW AND EUGENE L. ARMSTRONG *

THIS paper will confine itself to the clinical expression, therapeutic sign-posts, and laboratory study of 245 cases of chronic arthritis of the deforming type. The deformity produced is in the nature of bone destruction, compensatory hypertrophy, and spastic irritation to all component joint structures. Exostoses, lipping, spurs and contractures are common factors in the disease under consideration. Specifically, this study does not deal with any of the acute septic arthritides as occasioned by the acute streptococcal tonsil, the gonococcal genitourinary tract, or any bacterial inflammatory focus.

The arthritic process in these cases seems to violate the known laws of bacterial infections. It does not seem to be of the inflammatory habit but it is rather in the nature of a toxic process having lytic, allergic, irritative and proliferative powers. The destruction is largely lytic in nature. The toxin or organism or substance is irritative and produces a marked effect on every tissue involved in the total structure of the joint. The proliferative exostoses

are probably compensatory or, at most, simply the result of stimulation in a destructive area, accompanied by a generalized capillary stasis.

The pathologic change produced in the total joint structure indicates that the etiologic factor has proceeded from the marrow or end-arterial tissue toward the periphery. The central bone injury indicates blood-borne factors, viz., toxins with lytic destructive powers, or some organism capable of elaborating lytic, destructive or irritative substances. Clinical and therapeutic observations combine with those of the laboratory in tracing the origin of this thing or substance more plausibly back to the gastrointestinal tract than to any other system in the human economy. Toward the support of the foregoing contentions this study is earnestly directed.

We are not to be construed as announcing a known and proved etiology of this form of chronic disease. We think we have observed correctly certain constants, which by the mathematical law of choice and chance tend to point to the joint pathology as an end product of an etiology established elsewhere. We believe the entire human organism as a system is affected and that the joint symptoms and changes are the most predominant and outstanding expression in this systemic disease.

The etiologic factor is not an acute one. Its first influence is on normal physiology, and its diabolical clinical and pathologic manifestations are first noticed necessarily months to years after the causative factors have been steadily or intermittently at work. The etiology will be found in a chain of factors much more complex than staphylococci in a boil, diplococci in the meninges, or even streptococci on the heart valves. This disease attacks the whole body by systems. Clinically, first to show physiologic changes and derangements is the gastrointestinal tract.

Two hundred and forty-five carefully studied cases are reported here. By the complaints of the patients, by the physical examination and by laboratory and roentgen-ray demonstrations, 235 of the cases, or 96 per cent, were definitely gastrointestinal cases first. They might well have been placed into a great "colon conscious" group. The foregoing factor is one of the first "constants" in the study of this disease. The literature abounds in the confirmation of this statement by practically all authors in their study of chronic deforming arthritis of Ely's¹ classification as type 2.

Table 1 shows the outstanding ailments accompanying the 245 arthritic cases studied here.

TABLE I—PRINCIPAL AILMENTS ACCOMPANYING
THE CASES OF ARTHRITIS

	Number	Per Cent
Chronic irrititis and arthritis.....	8	3.2
Chronic tonsillitis and arthritis.....	9	3.6
Chronic bronchitis and arthritis.....	10	4.0
Chronic hypertension and arthritis.....	12	4.8
Chronic cholecystitis and arthritis.....	23	9.3
Chronic colon stasis and arthritis.....	25	10.2
Chronic appendicitis and arthritis.....	35	14.2
Chronic "colon conscious" and arthritis.....	235	96.0

The principal presenting symptoms are disturbances in the colon by quantities of gas, which pro-

† Read before the Section on Pathology and Physiology at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

* John V. Barrow (2007 Wilshire Boulevard, Los Angeles.) M. D. Rush Medical College, 1911; S. B. University of Chicago, 1909; Southern Illinois State Normal University, 1901. Graduate study: Internship, Los Angeles County Hospital; Private office and Hospital Research. Previous honors: Contract surgeon, S. A. T. C.; past president, Los Angeles County Medical Association. Present hospital connections: Chief, Medical Attending Staff, Los Angeles General Hospital; Sr. Staff California Lutheran Hospital; member Advisory Board, Los Angeles General Hospital. Scientific organizations: Los Angeles County Medical Association, C. M. A., A. M. A., Los Angeles Clinical and pathological Society. Present appointments: Professor Medicine, College of Medical Evangelists. Practice limited to Medicine and Diagnosis since 1912 (special protozoal and tropical diseases). Publications: "Bilateral Pneumococcal Parotitis with Report of a Case," J. A. M. A.; "Intestinal Flagellates: A Plea for Their Pathogenicity," California and West. Med.; "The Incidence and Clinical Significance of Flagellate Infections in Certain Chronic Diseases," California & West. Med.; "A Clinical Study of the Intestinal Protozoa, Based on Seven Hundred and Twenty-five Cases," Am. J. Trop. Med.; "Emetics in Typhoid Fever," California & West. Med.; "Intestinal Protozoa and Chronic Diseases with Special Reference to Chronic Arthritis," Iowa State Med. J.; "A Clinical, Pathological and Operative Study of the Icterus Index," Am. J. Med. Sc.; "Further Clinical and Operative Studies of the Icterus Index," Am. J. Med. Sc.

Eugene L. Armstrong (2007 Wilshire Boulevard, Los Angeles.) M. D. Tulane University, New Orleans, 1920. Graduate study: Charity Hospital, New Orleans, La., two years. Present hospital connections: Medical Attending Staff, Los Angeles General Hospital (Junior); California Lutheran Hospital. Scientific organizations: Los Angeles County Medical Association, C. M. A., A. M. A., Physician and Surgeon Fellowship. Present appointments: Associate Professor Medicine, College of Medical Evangelists. Practice limited to Medicine and Diagnosis since 1922. Publications: "Intestinal Protozoa and Chronic Diseases, with Special Reference to Chronic Arthritis," Iowa State M. J.; "A Clinical, Pathological and Operative Study of the Icterus Index," Am. J. Med. Sc.; "Further Clinical and Operative Studies of the Icterus Index," Am. J. Med. Sc.

duces discomfort and pain and which interferes by pressure with all the abdominal visceral actions. Abdominal tenderness over the affected parts, loss of appetite and often sleeplessness are common symptoms. The following were the bowel habits observed: constipation in 50 per cent of all cases; diarrhea in 10.9 per cent; constipation and diarrhea alternating in 10.7 per cent; regular bowel habit in 28.4 per cent.

All the foregoing physiologic and pathologic disturbances came on slowly and reached their absorptive culmination at the patients' average age of 46.9 years. This age is another approach to a "constant." At such an age ample time has been given for the systemic absorption of retained residue and elaborated foreign proteins held in the mechanically injured and deranged gastrointestinal tract. The effect on the human organism is to be presumably good or bad according to whether the absorbed substance is metabolically good, a rejectable waste, or a combatable poison. In dealing either with waste or with poison, the functions of elimination and resistance are taxed, and if either function fails, some organ or system of organs must bear the burden. The reaction of our organism to proteins unsuited to our economy is somewhat known through anaphylaxis and allergy. The colon in particular and the remaining intestinal tract in general constitute the incubator, reservoir and distributor of the endoprotein bodies and by-products of the billions of protozoa that have found lodgment with us and that have succeeded in making out of our digestive tube their permanent home.

Their bodies are protein, each possessing its complete system. Every organism must possess its billions of protein molecules with characteristic resistance to us. These resistant proteins are logically toxic to us unless our own digestive mechanism can so change their chemical structure that their absorption is rendered harmless. Woe is ours, if our protective juices and detoxicating apparatus have been put out of order in this biologic fight. Absorptive toxic symptoms in these patients give us another "clinical constant" in this disease.

While seeming to have drifted from our subject, in considering the problem of the elaboration and absorption of protein bodies, possibly toxic to our own economy, we have prepared ourselves for the incidence of protozoan infection in those patients having chronic deforming arthritis. In other researches² we have emphasized the extremely high incidence of infection by protozoa in all cases of this type of joint disease. Recently, Smithies,³ writing on the subject of protozoa, says that our work has not been corroborated by others, while only a few paragraphs farther on, he himself, by a case report, corroborates them. This present research confirms our former ones. Kofoid has stated that his laboratory has made sixty-four analyses, in a single case, before finding the ameba. Our search has been by no means thus exhaustive. However, out of 245 cases we have 94 per cent positive for protozoan infection concomitant with chronic arthritis. There were only fifteen cases found negative, and certain of these with only the ordinary search permitted by noncooperating patients. Such a percentage of

positive results entitles us again to believe that we are dealing with "a constant" belonging to a biomatematical law.

Table 2 gives a reasonably accurate zoological classification of the protozoa found, with their incidence percentage in the 245 cases.

TABLE 2—PROTOZOA

	Number	Per Cent
Ameba histolytica or dysenteriae.....	135	56.0
Chilomastix mesnili.....	123	50.0
Trichomonas intestinalis.....	20	8.0
Giardia or lamblia.....	9	3.7
Ameba coli.....	6	2.4
Ameba councilmanni.....	5	2.3
Craigia.....	7	2.8
Mixed cases.....	69	28.0

The history of these patients was carefully obtained as to their arthritic involvements having followed some acute septic infection. In 93.5 per cent of the cases there was no history traceable to a previous acute infection. In thirteen cases, or 5.3 per cent, it began either during or fulminated within three months after an attack of influenza. It seems to have begun with acute tonsillitis and sinus disease in two cases, and with measles in one. In whatever stage of the disease, an attack of influenza or even the usual respiratory infections made the ailment worse.

The condition of the teeth and the tonsils was carefully noted. Eighty patients had had all their teeth extracted when they first presented themselves to us for treatment. Only two patients felt that this procedure had helped materially, and in none had it stopped the course of the disease. Ten came with bad teeth, and 158 showed teeth in good condition. The records for tonsil extirpation are not flattering. One hundred and forty-eight, or 60 per cent, had had their tonsils removed, and only one of the number felt that the disease had been checked by the operation. Seventy-five patients had normal tonsils, and eighteen showed a diseased condition. Septic foci in tonsils and teeth were neither left nor condoned, but their removal made no monumental difference in the progress of the disease, either prior to or during our treatment.

The injury to the intestine was seen in the cases in which operation was done for the restoration of normal physiologic function. The ulcers were seen producing their dire mechanical blocks in all stages. Protozoan ulceration and invasion give very little peritoneal or localized pain. An ulcer may be protected from rupture by the thinnest one-celled veil of serosa. Over this point, as a vulcanizing patch, nature throws out a quantity of fibrinous deposit. The next step for protection is the organization of this patch by the penetration of fine capillaries. The end product is a membrane with all the possibilities of contracting sheets and bands. The resulting deformity varies in its effect by reason of its position and extent. The ileocecal juncture, cecum, hepatic flexure and sigmoid flexure are probably the areas most often harmed. The colon may be rolled, twisted, kinked or practically cut off by this mechanism. The appendix may be kinked, occluded, tied to some other viscous or may have its circulation so shut off that gangrene, perforation and peritonitis may result. If this is protozoan the process will be

insidious, with a minimal amount of pain and classic signs. The leukocytes will not be high, and the polymorphonuclears will be depressed. The same picture will obtain if a viscus perforates in any part of the intestine. Near perforation with its subsequent adhesions may furnish the bad mechanics that give the ideal protozoan incubator. What greater source for endotoxins could be provided than by such an injured intestine? Here is the source of the Jackson's veils and the embryonic shortcomings of our abdominal viscera. This pathologic condition may and often does begin in early childhood. It is expressed clinically by cramps, reversed peristalsis, stasis, constipation and diarrhea, lack of fluid absorption with its attendant "acidosis," interference with appetite, and an early "colon conscious" individual. Trace this from early life to the age of 45, and one can readily understand the great number of clinical derelicts encountered in middle life invalids. One can also readily see why proper surgical correction in these cases is so prolific of real benefit in health restoration.

Such a colon incubator contains within its mucous membrane and walls, and in its lumen, literally billions of these relatively large protein-moleculed protozoa. Kofoid has shown that their growth is in showers. Either their own excretory products or our resisting antibodies kill these organisms in showers as they have grown. This biologic cycle explains well the fulmination of clinical symptoms. When great numbers are killed by treatment the joints become worse clinically in the same manner that hyperthyroidism becomes exaggerated on excessive manipulation of the gland.

As treatment succeeds in clearing the colon, there is a commensurate amelioration of all symptoms. However, because of the chronically produced pathologic condition, we must often wait for months to two or three years for the best and proper results of treatment.

Symptomatically these patients are often greatly depressed and highly nervous. The metabolic processes seem to have become more or less exhausted. There is a low blood pressure generally, and lassitude goes with muscle exhaustion. Around the affected joints the muscle and tendon spasm expresses the metabolic strain, not greatly unlike the exhaustion of tissue in such diseases as pernicious anemia. The very choicest gastrointestinal clinics are obtainable from these patients in the orthopedic wards of our hospitals. The acme of this mechanical and absorptive pathologic process is reached at about the age of 45 years. The physical examination corroborates this muscle tiredness, intestinal tenderness, gassy abdomen, glandular exhaustion, low blood pressure, iritis,⁴ neuritis, arthritis and still other products of these numerous factors.

The laboratory is a further confirmation. The liver strain is expressed by a rise in the icterus index, as shown by an average of 9.5 in the 128 cases measured. The hemoglobin was fair at an average of 75 per cent. There was little high grade anemia. The red blood cells averaged 4,207,000, and there were none of the exhaustive forms as in the hyperplastic anemias. The leukocytes were depressed to an average of 6827 in the 245 cases. There were

seventy cases out of the 245 in which the leukocytes were 6000 or below, and thirty-one cases in which the count was below 5000. These figures are really too high, because a goodly number were taken during colds and acute bronchial conditions. This depression is probably greatest in the polymorphonuclear neutrophil cell.

The polymorphonuclears alone averaged 60.2 per cent. There were fifty-eight cases in which the polymorphonuclears averaged 55 per cent, and in thirty-three cases the average was below 50 per cent. There was no eosinophilia, even to the suspicion of a rule, in these protozoan laden cases, as has been recently reported.² The urine often shows indican, but no other significant bodies. The stool often contains a fine, needle-like crystal. It is not a coffin-lid crystal. It is probably a calcium soap.

These crystals exist singly and in clusters, and appear quite insoluble in the watery content of the bowel. If this is an insoluble fatty combination with calcium, we can the better account for the calcium poverty of these cases. We are hereby furnished the connecting link between chronic arthritis and certain metabolic deficiency diseases.

These stools have a specific gravity heavier than normal, and usually sink readily in water.

It is probable that this phenomenon is accounted for by the lack of bacterial gas producers. Kofoid has recently shown that the hydrogen ion concentration influences protozoan growth markedly.

In eighty cases the phenolsulphonphthalein kidney function test averaged 53.1. The nonprotein nitrogen in fifty-one cases was 33.1. The blood sugar in the cases read was 104.2. This does not include the one case of diabetes in the series.

The joints attacked in the order of their frequency were fingers and hands, knees, neck and spine, ankles, hips, elbows, shoulders, wrists, sacroiliac, feet and toes. None seemed to be specially selected and often the disease was generalized.

The treatment necessarily calls for our best and broadest clinical judgment, for it must embrace practically every phase of the gastrointestinal tract. It comprises every angle in the parasitic management from the earliest to the most delayed chronic injury. It may be grouped under (1) parasitic, (2) physiologic, (3) corrective, and (4) recuperative. Under parasitic treatment we must determine whether the infection is relatively recent or definitely chronic; whether ulcers or adhesive bands have deranged the function; whether the generalized inflammation has produced a dysentery or obstructing bands have produced injurious stasis. If the invasion is acute and extensive there is probably dysentery to combat. If it is slow and adhesion forming, a stubborn constipation is the problem. If pocketing and stasis have been produced in such a way as to encourage great growth and subsequent dissolution of organisms, the endotoxic factor with its absorptive, allergic problems are involved. The latter factors are probably most concerned in the matter of neuritis, iritis, arthritis, the anemias, and kindred clinical expressions.

These problems are far too numerous and prolific for the scope of this paper. We shall dwell chiefly on the ones we consider of greatest value to

the clinician, viz., parasitic and physiologic. Under the former we place all efforts at killing the parasites or removing them from the body where their harmfulness to us is nil. Under the second, or physiologic, we shall discuss the means of correcting faulty mechanics and restoring normal function.

Of the parasitides used there is not one specific. Ipecac, its alkaloid, emetin, and its salts, emetin-bismuth iodide, and the periodeide are the most useful in these infections and by far the most helpful in all arthritic cases. The treatment is usually begun with emetin hydrochloride, one-third grain (0.02 Gm.) by deep hypodermic injection on alternate days. If the case is severe the injection is given daily. After the third injection the dose is given intravenously. This treatment is kept up regularly for about three weeks, when the interval of doses is increased to twice weekly for another two or three weeks; then a weekly dosage is used for a period of a month or two. If muscular weakness develops in the course of treatment the drug is discontinued for whatever period is required by the patient's strength and resistance. Usually as a safeguard against muscle tiredness we give weekly or biweekly intravenous injections of the tricacodylates of iron. This has a wonderfully tonic effect.

Often coincident with the emetine treatment, or entirely in place of it, the patient is given massive doses of salol-keratin coated (5 grain, 0.3 Gm.) ipecac pills. Usually six 5-grain pills are given at 1 o'clock in the morning. Everything should be arranged for the patient's comfort and the provocation of sleep, following this administration. An ice bag is applied to the epigastrium and the patient is requested to rest quietly on the right side. Each night this dose is increased by two pills, until the maximum dose of twelve pills is given. If fairly well tolerated the dose is then stepped down nightly by two pills, until two per night is reached. The nurse must be watchful that the pills do not pass through the bowel undissolved. However, the central effect of ipecac is usually definite enough to tell the physician that absorption of emetin has taken place. Sometimes an opiate is given to prevent nausea, but often this drug defeats the very purpose for which it is given.

At times the duodenal tube is passed, and when it has reached its home we introduce from one-half to 1 drachm (2 to 4 cc.) of the fluidextract of ipecac, mixed with 4 ounces (120 cc.) of salt solution. This solution is further washed in with a few more ounces of salt solution. The treatment is a rather heroic one, but has a good effect in stubborn cases. The same method is used with neoarsphenamine, 0.75 Gm. being given in 6 ounces (175 cc.) of salt solution for both amebiasis and giardiasis. We repeat the dose about every fourth or fifth day for from three to five doses.

The next form of ipecac frequently used is the emetin bismuth iodide. This is generally given in a 3-grain salol-keratin coated capsule at midnight, with the same technique used as for the ipecac pills. From six to ten nightly doses are often more than can be tolerated. We never hesitate to discontinue temporarily any treatment that is not well borne. When any muscle tiredness or weakness indicates

emetin saturation the drug should be completely withdrawn until all lassitude subsides. We hear much about the depressing action of emetin on heart muscle. We regard this danger as having been highly exaggerated. The authors' cardiographic reading, after emetin was taken, was better than before its administration. Further research on this subject is in progress.

We must not leave ipecac without giving a combination used by the authors almost routinely from the first because of its splendid laxative action in the constipation cases. It consists of a capsule of calcium phosphate, 4 grains (0.25 Gm.) and alcresta ipecac, 6 grains (0.4 Gm.). This dosage, three times a day before meals, is a wonderful adjunct as a chronic treatment in these cases of constipation. For convenience we have called it "Calcresta." It may be obtained in capsule combination from the pharmaceutic house. It is worth many times its weight in spinach, and if used chronically will relieve and cure many cases of constipation and coincidentally furnish a most excellent liver stimulation.

Arsenic is the second greatest parasitic weapon. Neoarsphenamine in varying dosage both by duodenal tube and by usual intravenous administration is generally helpful. Kofoid has recently shown this drug to be highly lethal to protozoa *in vitro* at about 1:145,000.

The foregoing is probably the most powerful parasiticide in our possession. Our method of administration is that which is familiar to every physician. Recently stovarsol has come in for much praise by oral administration. In the acute colitis cases we have found it of considerable help. Patients having stasis or hepatitis get an early and embarrassing arsenical saturation. The dermatitis readily yields to sodium thiosulphate intravenously and by mouth, and probably no harm is wrought; but we regard the drug as bearing a high degree of watching in its administration. Johns and Jamison⁶ have recently reported favorably on this drug in acute cases. Other remedies, as chaparra amargosa, sulphur, and bismuth, are used at times. Enemas of potassium permanganate, 1:5,000, are efficacious. De Rivas⁸ has used the thermal death-point of 47 C. in colonic and duodenal lavage to good advantage. Every effort is made to restore the normal bowel function. When the roentgen ray has demonstrated ileal stasis, cecal retention, and long continued colon delay, we realize the futility of drugs alone, and then call for corrective surgery. If the roentgen-ray study shows a delay of from five to ten hours in the ileum after the stomach has emptied; if squarely segmented barium masses remain for days in a clubbed adherent or kinked appendix (we recently observed one for twenty days), or if there is a pocketed, adherent cecum with days of stasis, or if there is other physiologic evidence that mechanical injury to the normal intestinal action—eliminative or absorptive—has been wrought, then this case requires corrective surgery. When normal function has thus been established the routine medical management must be pursued as the clinical condition demands. Orthopedic help is of little value, if we are to permit the injurious process to go unimpeded. Orthopedic treatment must necessarily fail if it makes no

attempt to stop the cause of the deforming pathologic condition. The medical management detailed above does not in any way militate against orthopedic management. However, the proper understanding of the other faulty clinics of the patient may modify the application of exercises, rest and other physiotherapeutic measures. Knowledge of these conditions may solve some of the complications of fractures. In the light of this presupposed etiology some of the long chronic accident cases which have resulted from trivial injuries are well explained. The therapeutic test will complete the proof in the percentage of cases high enough to satisfy any faithful, observing and conscientious clinician.

Before giving the results of the treatment in this series of cases, we desire to call attention to the delayed results in this, the most chronic of diseases. Both patient and physician must learn "to labor and to wait." The clinical relief may be weeks, months or even a year or two in manifesting itself. We have had patients under months of faithful and to us nerve exhausting treatment without much to encourage us in the way of relief. They have been sent away for a period of rest and have returned months later greatly improved and bearing the enlightening information that their improvement or cure was due to prayers, orange juice, or some simple change of routine life.

This experience has occurred often enough to make us certain of the therapeutic value of the treatment we have carried out. We have turned this experience into good clinical account, and by passing it on to our patients and other physicians we believe we have turned their aim from the decoy to the real game in question.

Dietary treatment has failed to yield any measurable results. We cannot agree with Pemberton⁷ that the glucose tolerance of the blood bears any definite relation to either etiology or treatment of this type of arthritis. Schmitt and Adams⁸ of the Mayo Clinic arrived at the same conclusion.

Of our total group of cases 171 received only medical management. Parasitic treatment played the leading rôle, but in no case have we denied our patients any clinical aid calculated to enhance normal function. We therefore utilized surgery in 15.5 per cent of the cases.

The end products of treatment are hard to estimate, because no two patients ever were the same clinically from any disease to which the human organism was ever heir. We have tried to evaluate results as follows:

1. Excellent has meant well-established improvement conceded by patient, friends, neighbors and, most important, by other physicians. Some of these cases might well be termed spectacular.
2. Good covers all those cases in which pain has ceased, health improved, joints more usable, and the "carry on" feeling has begun to return to normal.
3. Fair embraces those cases in which we can see some definite clinical improvement, but in whom there is still much to be desired.
4. The fourth group includes those in whom there was no benefit at all clinically and death or down-

ward progress of the clinical course was self-evident. There were fourteen of this group. Four died from intercurrent pneumonia of pneumococcal origin, and one died from true angina pectoris. We had thirty-six cases which we felt could fairly be classed as wholly inadequately treated.

Our series of fairly treated cases is 209. Of this number we were able to classify sixty-four, or 30.6 per cent, in the group of excellent results. On the basis of the entire series of 245, this percentage is 26.1. In the group of good results there were eighty-eight, or 42.2 per cent of the well treated and 35.9 per cent of the entire series. In the group of fair results there were forty-three, or 20.5 per cent of the well treated or 17.5 per cent of the entire series. We are thus certain of clinical benefit in 93 per cent of the cases treated or of 77 per cent in the entire group seen. We realize that this series is very small and that the time limit for end products is by no means in sight. However, the clinical results to us and our patients have been as a rule so gratifying that we do not hesitate to venture this forecast and place it into the hands of careful clinical investigators for both use and criticism. For usefulness to you and your patients we can recommend it most highly in a disease for which we have heretofore done but little. For criticism without personal knowledge or investigation, we are certain it will prove a wonderful stimulus to you. For your approval after your honest trial and investigation, we are willing to rest our case.

In conclusion, we wish to cite the tendency of the clinical factors to approach mathematical constants in our study of the foregoing cases of deforming arthritis. To be more explicit, these factors may be specifically enumerated for further observation and criticism as follows:

1. This type of bone and joint disease is not of the inflammatory type, as we are accustomed to see from bacterial invasion.
2. The disease is of a systemic nature as taken from its metabolic exhaustive syndrome, as might well be expressed from slow stimulation, followed by exhaustion.
3. There is evidence in the liver and bone marrow that endotoxin, chemical bodies, or even organisms themselves, originate in the intestinal tract, and, by this same capillary stasis, lodge, influence and produce this condition in bones and joints.
4. This contention is further supported by the exhausted vitality, "colon consciousness," digestive unrest and often deranged intestinal mechanics.
5. There is a depression in the action of the bone marrow activity, as shown by a tendency to leukopenia and polymorphonuclear poverty.
6. The stool shows fatty-like (calcium) crystals and an infection by protozoa in a percentage far beyond coincidence and easily approaching a mathematical law.
7. The therapeutic proof forecasts this protozoan etiology in a highly satisfactory manner, and in at least two cases the pathologic condition has been shown by the finding⁹ of the organisms in the diseased bone tissue.
8. Negatively, but none the less constant, is the

failure of the removal of teeth, tonsils, and well-established bacterial foci, to stop the pathologic and clinical course of the disease.

(Manuscript written by J. V. B.)

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Whose job is health education? asks Merrill Champion (Publications, Massachusetts Public Health Department), who answers in part:

"When you come to think of it, the success of public health work of every kind depends upon health education. Even the abatement of nuisances is truly successful only if the offender and the public are educated to a higher standard for the future. In this sense, then, everyone engaged in public health work is to a greater or less extent a health educator. It is worth while to enumerate some of those who may with reason be included in the ranks of those teaching health. The health officer surely belongs there as does the public health nurse. The nutritionist, the dental hygienist, the physical educator, the health visitor, the visiting teacher, the right sort of social worker, the physician and the dentist, belong too in the front rank if they can get away from obsessions engendered by previous exclusive attention to pathology. Then, of course, there is the school-teacher, general or special. Lastly, and potentially most important of all, there are the parents.

"This makes a long list. It raises the question whether, with so many sharing the responsibility, failure is likely because of lack of concentration. This criticism would hold good if health education were strictly a matter of the conscious application of approved pedagogical principles. As a matter of fact, however, this is not so. The list of health habits that we can be reasonably sure of is relatively a short one. Probably at least some of the things we have stressed so confidently and dogmatically in the past have only a remote bearing upon health."

What history we have of man is largely a record of discontent. In the main, man's activities are but reactions to his discontent. If and when he becomes contented, he usually goes to sleep. The greatest urge to accomplishment is dissatisfaction with things as they are.—*Canad. M. A. J.*

THE OUTLOOK FOR THE DIABETIC

By ELLIOTT P. JOSLIN

New England Deaconess Hospital, Boston

(Continued from February, 1927, Page 182)

Classification of Supposed Diabetics—With the help of my student friends, Mr. Alexander Marble and Mr. Richard Middleton of the fourth year class of the Harvard Medical School, I have spent spare summer evenings in personally recording the classification of each one of the diabetics I have seen since 1898. Classification of the diabetic is still puzzling and in fact is quite as difficult as it was years ago. Despite the aid of tests for blood sugar one runs across a great many patients who have lived so long that the disease appears "burned out," and about the only remains of it one finds are the calcified arteries which represent the ashes. An infection will make these latent cases apparent. Then, too, there is another group who evidently have never been severe, very likely were educated in the tenets of the Allen School, originally were fasted for a day or two, and have held to a Spartan régime ever since. These patients usually have a urine which is sugar-free and before a meal the blood sugar is almost normal, and not a few of them show a normal blood sugar following a meal. One hesitates to give a liberal carbohydrate meal, much less a glucose tolerance test, to these "faithful" merely to gratify a classification whim. Then there is the group of patients in whom the disease was diagnosed very, very early, by reliable physicians, was probably unmistakably present, yet actual proof of it is wanting now. Thus a vivacious Miss, whose glycosuria was 1.7 per cent in my own laboratory when I first saw her in 1919 and later decreased to the merest trace with diet, came to my office this month. When her diabetes was detected in 1917 by the late Doctor Koplik, whose name we all recognize, he kept her out of school for a year and the sugar fell to a mere trace. For the following four years she was on a rigid diet, but now before lunch the blood sugar is 0.10 per cent, and one hour after a characteristic boarding school girl's lunch of a chicken salad sandwich, hot chocolate, ice cream with fudge marshmallow, it rose to but 0.12 per cent. Is she, was she a diabetic or a renal glycosuric? These baffling situations arise in selecting the group of true diabetics. After all is said and done, can it be that in the past we have builded better than we knew? Is it not possible that diabetes may "burn out" in the young, as well as in the old, if we allow the element of time to work?

TABLE 6

True Diabetics—Time and death are great classifiers, and Table 6 shows this very plainly. The first 1000 supposed diabetics coming for treatment contained 906 true diabetics, but this number has decreased in succeeding thousands so that in the fifth at this writing the true diabetics number 809. As time goes on undoubtedly there will be transfers to the true diabetic group from the other groups, particularly the "unclassified" group. I do not think the group of true diabetics will ever grow as large in the fifth thousand as it was in the first, because

TABLE 6
CLASSIFICATION OF 5000 SUPPOSED DIABETICS¹

TRUE DIABETES				POTENTIAL DIABETES				RENAL GLYCOSURIAS				UNCLASSIFIED				
Number	Dead	Alive	Untraced	Number	Dead	Alive	Untraced	Number	Dead	Alive	Untraced	Number	Dead	Alive	Untraced	
1 to 1000	906	716	164	26	13	1	12	0	0	0	0	81	31	41	9	
1001 to 2000	865	510	313	42	11	0	10	1	5	1	3	119	14	90	15	
2001 to 3000	834	245	515	74	26	2	23	1	15	2	12	1	*125	7	102	16
3001 to 4000	843	157	608	78	42	0	37	5	8	1	6	1	107	5	89	13
4001 to 5000	809	74	677	58	47	0	47	0	13	0	13	0	131	5	117	9
Total	4257	1702	2277	278	139	3	129	7	41	4	34	3	563	62	439	62

* One diabetes insipidus.

¹ Minor changes in this table must be made later.

it is my impression—and I think the medical directors of insurance companies hold the same opinion—that more doubtful diabetics are coming to light now than ever before. Rarely a case will be transferred from the diabetic group to one of the other groups, but I shall certainly be very cautious before I allow a child to qualify as a diabetic of ten years' duration unless he or she fulfills all the requirements. This table shows that of the true diabetics more than two-thirds are alive, and if I add 500 or 600 recent cases the living percentage will be still higher.

The tracing of diabetics for end results is enticing even if it is as expensive as most sports. So far I have traced 93 per cent of my first 5000 cases and have given up as "untraceable" but 1 per cent. Of the 395 children all have been traced.

By a true diabetic I mean in the first place a patient who shows a considerable glycosuria with a percentage of sugar in the blood of 0.17 per cent or more. In the older cases evidence of considerable sugar in the urine, which was evidently related to diet, justifies the diagnosis, especially when taken in connection with the further history of the case. A normal fasting blood sugar, but with proof of considerable sugar in the urine, varying with the diet, would establish a diabetic's identity, and so would a history of a moderate glycosuria if the fasting blood sugar was 0.14 per cent or above. In any series of 1000 cases one is struck by the number of patients who gave a history of recent onset, yet with repeated questioning symptoms are disclosed which would indicate that the disease had begun in a mild degree years before, but only recently flared up with an infection. Just as the beginning of the disease in this group is easily overlooked, so the end of the disease is overlooked in the "burnt out" cases, because the complications or intercurrent diseases, such as cancer, are so much more important and this displaces diabetes on the death certificate.

Potential Diabetics—A potential diabetic is a patient with glycosuria closely related to the diet, who easily becomes sugar-free with slight restrictions and

whose blood sugar is below 0.14 per cent fasting and never reaches 0.17 per cent after a meal. This group is constant in the tabulation for the first and second thousand patients, doubles, trebles, and quadruples for succeeding thousands. In connection with the 395 examples of true diabetes in children some sixty-eight other supposed diabetics were referred to me, and of these fourteen were placed in the group of potential diabetics. Thus far in but one instance has there been evidence that a case once carefully classified as a potential diabetic later became a true diabetic. Possibly case No. 129 as well should be added.

I doubt if this constancy of classification will hold for adults. With the children it is important, because such facts are a comfort to the family and the physician.

The potential diabetics among my first 5000 cases number 139, and of these but three have died and but seven are untraced. It would appear as if a diagnosis of potential diabetes predisposed that individual to health, and that he was a good risk for an insurance company.

Renal Glycosuria—Twenty years ago renal glycosurics were rare and I did not recognize one as such in my first 1000 cases which ended in the year 1916. Doubtless a certain number were overlooked. In the second thousand they are represented by five cases and in succeeding thousands the number rises as high as fifteen. The total number for the 5000 is forty-one cases, of whom four are dead and three remain untraced. One of the four cases who died succumbed to an automobile accident while coasting, and the other three to cardiac disease, cirrhosis of the liver, and following a gall bladder operation.

The characteristics of a renal glycosuric are now generally recognized to be (1) a permanent glycosuria, (2) which is largely unrelated to diet, (3) a normal blood sugar, (4) freedom from diabetic symptoms, (5) a duration extending over a period of years.

Unclassified Diabetics—Unclassified diabetics in

my classification include all those cases of glycosuria not easily caught in the preceding nets, but especially those cases not previously classified, which are associated with organic disease, for example, of the gall bladder, thyroid, kidney, cancer of the pancreas and often pregnancy, though these latter cases appear to be of varied type and therefore one must not be content to consider them lightly but endeavor to determine whether their glycosuria is that of true diabetes, potential diabetes, renal glycosuria, or merely unclassified. One is struck by the increase of the unclassified group in successive thousands. Thus in the first thousand there were 81, in the second 119 cases, but in the last and most recent thousand where time has not had a chance to show its hand the number is 131. These 562 unclassified cases make a very important group for study. They are a dangerous group. One never rests easy with an unclassified diabetic. Such a diagnosis worries the doctor, annoys the patient and exasperates insurance agents.

Treatment—In the treatment of diabetes today I still adhere to each of the ten clauses of my diabetic creed, but with certain modifications and this preamble: Insulin not only allows but demands that the diabetic of today should never be contented with tolerable health, but should have good health. Perhaps I may be permitted to state the creed in abridged form:

I believe (1) that diabetes mellitus should be considered so probable in any person who has 0.1 per cent or more of sugar in the urine that he should be watched for life.

2. That normal weight, or less, should be insisted upon in each diabetic, suspected diabetic, or relative of a diabetic. (Therapeutic loss of weight should invariably be gradual.)

3. That mildness of the diabetes should be assumed and the patient treated accordingly until the contrary is proved. Hence, the nearer the proportions of carbohydrate, protein, and fat in the diabetic diet conform to those of the normal diet always avoiding glycosuria, the better it is for the patient.

4. That reversal of the diet, namely, high fat and low carbohydrate, assumes the contrary, severity of the diabetes, and is dangerous both in principle and in practice and unless accompanied by a minimum protein intake, frequently ends in coma.

5. That undernutrition (a) prevents diabetes and (b) is the foundation stone of diabetic treatment. If hunger can be avoided a smaller number of patients will yield to temptation, break treatment, and in consequence die of coma.

6. That extreme inanition with loss of body protein is not worth while simply to render the blood sugar normal.

7. That acidosis, the chief cause of death in diabetes, is more easily prevented in ninety-nine cases than treated in one, and therefore diabetics when ill from any cause should (1) go to bed, (2) keep warm, (3) take a glass of hot water, tea, broth, orange juice, or oatmeal water-gruel every hour, (4) empty the bowels with an enema, (5) call a doctor who after a careful examination, if he finds acidosis the dominant factor, will give insulin and caffeine,

may wash out the stomach, and inject a subcutaneous solution of salt.

That gangrene, the other diabetic enemy, should be avoided by extreme cleanliness, care and exercise of the feet by all diabetics over 50 years of age.

8. That the immediate aim of practice should be to simplify treatment and to encourage physicians in their own communities to develop homes and boarding houses, clinics, or departments in hospitals to which they may take or refer their patients for a diabetic education.

9. That any patient with a tolerance of less than 100 grams of carbohydrate should (a) test his own urine for sugar, (b) keep sugar-free, and (c) take home food scales and use them until he can keep sugar-free without them, and eventually in the course of years raise his tolerance to this level with or without insulin.

10. That firm persistence in a strict diabetic diet (a) finds ample justification in the many patients kept alive by it to profit by insulin with its assurance of gain in weight, strength, and mental vigor; and (b) is essential to safety and success in the use of insulin. Insulin utilizes rather than replaces the advances in diabetic treatment hitherto achieved.

Inauguration of Treatment—The inauguration of treatment of a diabetic is a critical procedure. The doctor must never forget that the patient comes to him alive and whatever he does should give help and not cause harm. Two weeks have not passed since I was consulted about a patient who went into coma with the inauguration of treatment because of sudden restriction and alteration of diet.

Acidosis is practically the only danger which arises in the beginning of treatment. Every physician should have ingrained in him these three principles underlying diabetic coma: (1) Overeating tends to bring on coma. (2) It is immaterial whether the patient overeats food or whether he overeats himself. He does the latter when his metabolism is increased, as, for example, when he burns up with fever or has hyperthyroidism. (3) Coma comes when the carbohydrate burned in the body is insufficient to oxidize completely the protein and fat which are simultaneously metabolized. Consequently in the inauguration of treatment of a diabetic don't overfeed him. Protect him with food and protect him by rest against his own increased metabolism. Further, remember that temporarily it is safe to give a small quantity of protein and even less fat, because he can supply these from his own diabetic store as required. On the other hand, allow a moderate amount of carbohydrate which by its oxidation will burn the fat and protein too. No patient who is sugar-free and is taking 1 gram of protein per kilogram body weight will show acid, unless more than 3 grams of fat are oxidized for 1 gram of carbohydrate. If the patient on this diet is not sugar-free the protein should be lowered to two-thirds of a gram, and then it will be safe to give 4 and even 5 grams of fat for each gram of carbohydrate metabolized. This practical rule I have based on the original work of Woodyatt, Schaffer, Wilder and others.

If a diabetic showing large quantities of sugar is suddenly fasted he may go into coma, because his body store of carbohydrate in the form of glycogen

is so slight that it will not offset the protein and fat of his own body which he consumes. Fortunately he seldom goes into coma, simply because his diabetes is so mild that he becomes promptly sugar-free and does not use up his carbohydrate store.

Insulin or no insulin, inaugurate the treatment of diabetes gradually. There is no need for haste. The patient should live for years. The interval between the beginning of treatment and the hour of becoming sugar-free it is true can be shortened with insulin as much as one likes, but only when the patient is watched hour by hour.

If the patient can go to a hospital where he shares the *esprit de corps* of a group of diabetics he is fortunate. There are rare nurses who can inaugurate treatment successfully in the home, but unfortunately there are few of them and the cost is generally prohibitive.

Education of the diabetic begins his first day and should be of the kindergarten order. Don't overwhelm him with knowledge. Teach him the simplest things. He will learn enough as time goes on. However, during the first few days of treatment he must learn the danger of acidosis and how he can avoid it.

It was hard for Mary M. to stand up before the diabetic class and say the reason she went into diabetic coma was because she ate a banana royal and hot dogs, but the remembrance of that fact undoubtedly is partly responsible for our small number of deaths from coma last year. Again this year Mary went into coma and before she could recover from the same the patients in her ward volunteered the reason why. They knew because they saw, when her stomach was washed out, there were peanuts in the contents. There was no doubt in Mary's mind or in the patients' minds why acidosis came on. She is a good girl, but she eats too much, has become too fat, and some day even insulin may not overcome her indiscretions.

Gangrene—Infections of the feet and gangrene are among the saddest complications of the diabetic. If the patient is 50 years old he must realize that gangrene is a possibility. Not uncommonly I send a diabetic to the hospital even though the case is mild, not because of the trifling amount of sugar in the urine, but because I believe the education of the patient in the care of his feet may prevent a catastrophe. When I left the Deaconess Hospital a few days ago there were on my service in the hospital five patients with amputations of a leg and four with amputations of a toe. I consider the example which these patients presented to the others in the group of more value than words. This month represents the beginning of the establishment of a special department for the care of the feet of our diabetic patients after discharge. One might christen it a beauty parlor for diabetic feet. It is not our intention to open a chiropody department for diabetics generally, but we are making available for all our old patients a department to which they can return for the care of their feet. Already we have a dental department, but I suspect this new department for the feet will prove to be more life-saving in character. Particularly have we been led to this because many poor patients in the past have spent,

either of their own or of our funds, large sums of money on account of gangrene or infections of their feet. After discharge from the hospital slight infections have reoccurred and a re-entry has been necessary. Now we are arranging this so-called beauty parlor for the feet so that these patients can regularly report to us for foot inspection. In many patients the state of the diabetes is inconsequential when compared with the state of the feet.

Insulin—Insulin goes hand in hand with diet in the treatment of diabetes. Ordinarily I begin both simultaneously and gradually accustom the patient to both. It is desirable for most all diabetics to take insulin even though a considerable percentage can give it up after a few days or weeks. Insulin is the one drug that they ought to know about, and the sooner they become acquainted with it the better. It saves their time, saves their money, saves their life, and insulin is the one means we have today at our disposal which makes the health of the diabetic not only tolerable, but good. If he is able to give up insulin so much the better, because he tells another diabetic about it and this is encouraging news. If he understands about insulin he will know that it is likely to be necessary for him to employ it in the presence of an infection, whether general like pneumonia or local like a carbuncle. It is his staff which always must be ready when his progress becomes difficult. This evening it is out of place for me to discuss in detail indications for insulin, its dosage, dangers, or methods of application, because these will be considered in a Stanley Black lecture in Pasadena.

Fractures of Shaft of Femur—W. K. West, Oklahoma City (*Journal A. M. A.*), gives the results of treatment in ten cases of fracture of the shaft of the femur in which adhesive traction in connection with a plaster spica was used. This is a modification of several methods. Immediately after the first roentgenogram has been taken, the patient is removed to the plaster room and placed on the traction table. The legs are pulled out to equal lengths. Adhesive strapping is applied to the leg in exactly the same manner as when the Thomas splint is used. The stockinet is then pulled up over the leg and the body. Sheet wadding is applied in the usual manner rather lightly. In addition, the back, ribs and pelvis are well padded with one-eighth inch harness felt. A spica is applied from nipple line to ankle. In small children, the cast is carried to the knee on the opposite leg. It is important that the margin of the cast around the lower back and inner side of the thigh will be well padded and the stockinet that turned back, giving a soft edge. The foot of the bed is elevated eight inches and a Balkan frame is placed over it. This frame is similar to the U. S. army standard. The top half of plaster is cut away from three inches above the knee to the end of the cast. There are two weights used, one suspending the leg in the plaster about six inches off the bed. This rope is carried through two pulleys overhead and one at the foot, so that the weight hangs off the bed below. The other pulley is attached to a cross piece about the level of the main axis of the leg after it has been properly suspended. The Sinclair skate board is used as the wooden block on the sole of the foot, which transmits the traction from the adhesive to the weight rope. The weights used are about sixteen pounds on the suspension and from twenty to thirty pounds on the traction, depending on the size of the patient. Handholds are attached to the frame directly over the patient's shoulders to help him move about in bed. This method is continued from four to six weeks; then a simple plaster spica, including the foot, is used for protection for four more weeks, and after that a caliper splint is used if it is thought necessary.

SURGICAL TREATMENT OF PROSTATIC ABSCESS

By NATHAN G. HALE*

DISCUSSION by Sidney Olsen, San Francisco; Lewis Michelson, San Francisco; Robert V. Day, Los Angeles.

THE surgical treatment of prostatic abscess is of practical importance because of its fairly frequent occurrence, the proximity of important structures increasing difficulties of intervention, the complications liable to result, and the confusing variety of recommended procedures.

The objects of all the methods employed should be to give free and dependent drainage, to interfere as little as possible with the excretory and sexual functions, to minimize complications, and to shorten convalescence.

Etiology—While gonorrhea is the most common cause of prostatic abscess, the primary infection does not necessarily have to be venereal. In this series of twenty-three cases six were of nonvenereal origin. One followed pneumonia, one during the treatment of a fractured femur, one followed the passing of a sound years after a gonorrhreal infection, in one case the abscess was of metastatic origin, the focus being a series of boils, two followed influenza. The latter two may have been primary from an undiscovered cause. The general sepsis simulating influenza.

Pathology—Abscess of the prostate may be single or multiple, but more often multiple and involving more than one lobe. The position of the abscess, in relation to the urethra, varies. The extent of destruction is not the same in each lobe. The purulent process usually starts in the tubules and invades the surrounding stroma, destroying both tubules and stroma, forming a union of multiple abscesses and necrosis of the surrounding tissue. Those cases of acute prostatitis studied by A. C. Stokes show the follicles filled with a mucopurulent mass with infiltration of the interstitial tissue. The epithelium of the glands is infiltrated with leukocytes.

The ducts which carry the secretion become closed, the secretion and infection is retained, these minute follicles coalesce resulting in the destruction of prostatic tissue and abscess formation. If most

abscesses are multiple it is unreasonable to expect the advocated procedure of needling and aspirating either by way of the urethra, perineum or rectum to give adequate drainage, and it is not unreasonable to expect a reoccurrence of an abscess following this method of evacuation.

Diagnosis—The diagnosis depends upon history, size of the abscess and symptoms produced. Palpation per rectum is most valuable. Symptoms of acute posterior urethritis and beginning prostatic abscess are similar. Palpation per rectum differentiates. Only in advance cases is fluctuation noted; this is due to the character of the glandular structure and its firm enveloping fascias. The white count is an aid, but too much importance should not be attached to it. In the gonorrhreal cases there is a marked increase in small lymphocytes with a moderate leukocytosis. The temperature usually is moderately elevated.

A marked rigor is seldom experienced, but chilly sensations are common. Difficulty in urinating, with partial or complete retention, is frequently noted. A sensation of weight in the perineum, and pain on sitting, is all but universally present. Frequency is also a constant symptom.

Operation—The urethra and bladder are irrigated with an antiseptic solution. The patient is placed in the exaggerated lithotomy position, as for a perineal prostatectomy. A sound is introduced to the membranous urethra. An inverted "U" incision is made as in a perineal prostatectomy. The rectourethralis muscle is divided, the seminal vesical retractor of "Young" is inserted. The membranous urethra is approached but not incised. By careful dissection the entire posterior prostatic capsule is exposed. The most apparent abscess cavity is incised and thoroughly drained. A 10 F catheter is sutured

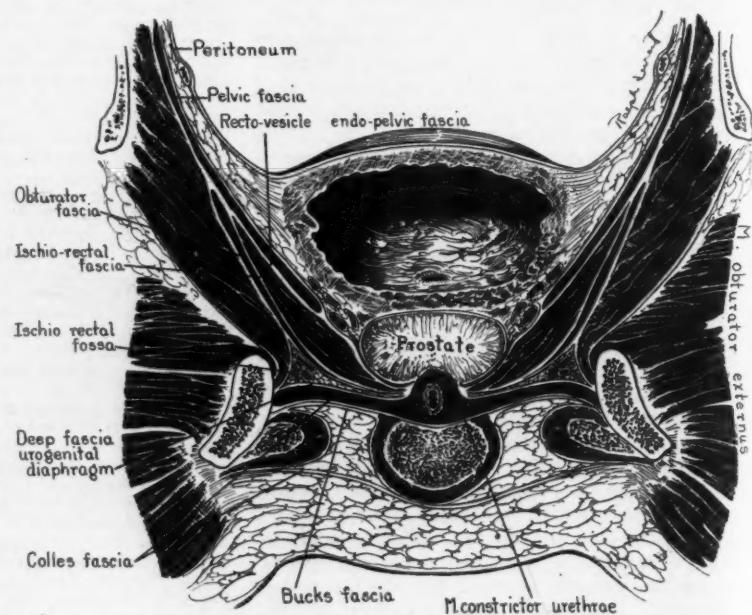


Figure 1

* Nathan G. Hale (400 Capital National Bank Building, Sacramento), M.D. University Southern California, 1914. Graduate study: Sacramento County Hospital, 1914-15; New York Clinics, 1915; house staff Brady Urological Hospital, 1916-17. Previous honors: Division urologist Eighty-seventh Division, 1918; visiting urologist Sacramento County Hospital. Scientific organizations: F. A. C. S., Sacramento Medical Society, C. M. A., A. M. A. Practice limited to Urology since 1915.



Figure 2

into this cavity for the formation of a sinus tract and instillation of an antiseptic solution.

Multiple punctures with a sharp-pointed bistoury are made in the posterior surface, keeping away from the midline. Pus often seeps from many of these stabs, although not in direct communication with the larger abscess cavity. The retractor is removed. The separated levator ani muscles are sutured in front of the rectum. The skin approximated with a subcuticular suture. No retention catheter is used.

Conclusion—1. Prostatic abscesses are frequently sequelae of nongonorrhreal infections.

2. Early diagnosis and rational surgical treatment results in less destruction of prostatic tissue and shorter convalescence than palliative measures.

3. Direct vision and dependent drainage of all the abscess cavities is a satisfactory surgical procedure.

4. The best results should be expected when there is the least interference with the normal functions of the bladder, urethra, generative structures, and rectum.

5. Following convalescence, the resulting prosta-

titis should be treated as any case of chronic prostatitis.

6. Endoscopic examination of six patients operated on by this method showed no distortion of the posterior urethra.

Summary of Results—Twenty-three patients with prostatic abscess were operated on. Their ages varied from 52 to 18. The cause of prostatic abscess was found to be: nongonorrhreal, eight; gonorrhreal, fifteen. Of the nongonorrhreal two were due to trauma, one pneumonia, three influenza, one following a fractured femur with trauma of perineum, and one furunculosis. The history of prostatic abscess varied from a few days to several months before surgical drainage was instituted.

The method of complete perineal exposure showed that the average number of hospital days were fifteen, and the average number of hospital days of other recommended methods were seventeen. Epididymitis complicated the complete perineal exposure in 22 per cent. Other recommended methods showed the complication of epididymitis in 32 per cent.

Epididymitis was the most frequent postoperative complication. One patient developed a tender vas deferens without an epididymitis. A sinus persisted



Figure 3

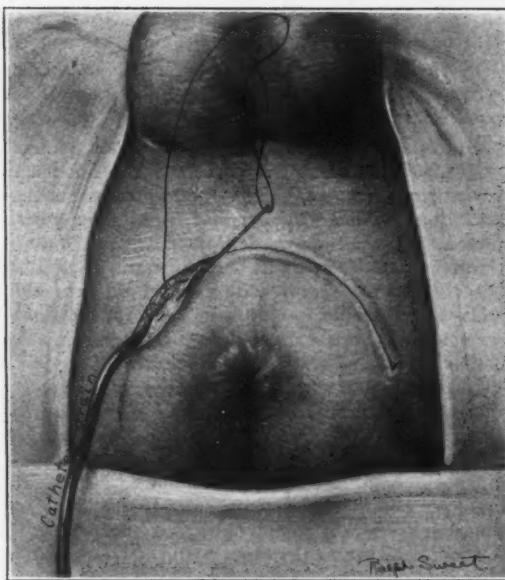


Figure 4

two months after a rectal stab wound. One—a lateral incision—on the sixth postoperative day had a secondary hemorrhage, which was controlled by pressure. The massaged secretion showed an average in the complete perineal exposure of about 20 per cent pus, which persisted over an average length of time of three months, while the prostatic secretion following other recommended methods contained approximately 40 per cent pus and resisted treatment about one month to six weeks longer.

Motile spermatozoa were found to be present in 93 per cent of those following the complete exposure and in 79 per cent following other methods. The sexual functions were normal in every case except one, and that patient stated there was a decrease.

The urine, when a patient has a prostatic abscess, does not necessarily have to be cloudy as in six of the cases the urine was macroscopically clear.

The major portion of those, however, where the urine was found to be clear, were with prostatic abscess caused from a metastatic infection.

The microscopic examination of all the urine showed pus and organisms. The prostatic examination per rectum showed enlargement, and three of the prostates were boggy or fluctuant, while the rest, on palpation, were tense.

The rectal examination was, as a rule, painful. Two patients, however, stated that there was no particular pain on palpation. The size of the stream was in every case diminished. Four of them had complete retention. The force of the stream was poor, and about 80 per cent of the patients had residual urine varying from 30 to 100 cc.

The symptoms varied with the length of history of prostatic abscess. Most had marked pain on urination with fever, chills and malaise. A very important symptom was pain in the perineum on sitting. Previous gonorrhreal infections occurred in about

half of the patients and apparently was of no significance as a predisposing cause of prostatic abscess.

DISCUSSION

SIDNEY OLSEN, M. D. (384 Post Street, San Francisco)—When prostatic abscess has been diagnosed, adequate dependent drainage must be sought for cure. This Doctor Hale has shown by his method and results. As the majority of cases are due to gonorrhea, a complicating generalized prostatovesiculitis may simulate abscess. However, the clinical course is different, for the former soon responds to local heat and supportive treatment. With abscess the condition is, as a rule, progressive. Our series is not so large as Hale's, one reason perhaps being that we have always depended on fluctuation as a sign to a great extent. In an abscess localized to one side, unilateral oblique perineal section is often sufficient. By keeping posterior to the transversus perinei muscles and well lateral to the central tendon and rectourethralis muscle, the bugbear—the rectum—is easily avoided and the prostate readily reached. A similar procedure can be made on the opposite side and the whole prostate explored and necessary drainage instituted. This leaves the important central structures unharmed.

A more complete exposure, as Hale has shown, whereby the central tendon and rectourethralis muscles are cut should always be made in more extensive involvement. The whole periprostatic region can be explored and the vesicles likewise drained, if involved, as often occurs.

The incidence of epididymitis as a complication can be kept down to a large extent, I believe, by avoiding any urethral instrumentation at the time of operation or in convalescence. Where the operation is done extra-urethrally no functional disturbance should result. Fistula formation is uncommon, as the larger number of abscesses occur before strictures have formed with their sequelae, so that communication is not made with the urethra at operation. Most cases heal quickly, especially those complicating gonorrhea where the pus is usually sterile. The other types as a rule are more serious as they often accompany a generalized infection, foci elsewhere, or are in older debilitated individuals.

I am glad that Doctor Hale did not mention rupture of the abscess per urethra as a surgical procedure, for it is not one and should be avoided.

LEWIS MICHELSON, M. D. (490 Post Street, San Francisco)—Any method that enables the operator to obtain a better exposure of the diseased organ instead of depending upon his sense of touch, is the more surgical procedure. The method outlined in Doctor Hale's paper assures good exposure and has many advantages over the so-called "stab method." In the first place, an abscess can be located earlier in the course of the disease. Secondly, multiple abscesses are found that would otherwise be missed. Thirdly, drainage can be more intelligently carried out.

The old procedure of opening through the rectum or directly through the skin upon the abscess should be reserved for cases where the surgical facilities are poor, or those which are in extremis. I have used this latter method upon only two patients: one a typhoid who was practically in a dying condition; the other, one who had an abscess pointing in the perineum, which required an incision only about an eighth of an inch deep. A third case, in which an abscess was ruptured in introducing a sound, and drained through the urethra for weeks, had later to be operated upon under complete exposure before it would heal.

The percentage of nongonorrhreal cases I have seen is less than 10 per cent of the total. One of these was in a gland which was removed for a different condition.

ROBERT V. DAY, M. D. (Detwiler Building, Los Angeles)—Doctor Hale has certainly covered the ground well in his essay on prostatic abscess. I agree with all he has said except for a slight modification of technique and a little more conservatism.

Formerly I made the Young exposure as he did. For the past few years I have used the lateral incision like Doctor Olsen. It saves the central tendon and is far less

apt to result in nerve section, an important factor. Moreover, it shortens the patient's stay in bed.

As regards their attitude toward the operative treatment of markedly acute purulent prostatitis, one might say there are three schools, viz.: the ultraconservative, the radical, and "the middle of the road."

The ultraconservative practitioner is apt to, and frequently does, allow the process to go on to dangerous extent, resulting in enormous destruction of tissue, wide dissection by the purulent exudate, and often extremely serious metastatic infections. The radical, on the other hand, reasons that even if no definite pocket of pus is found that multiple punctures cause the engorged and inflamed prostate to rapidly resolve, shortens the course of the disease and this particular complication, and leaves the patient finally in a nearer normal condition as regards his prostate. The urologist taking an intermediate stand is reasonably conservative and operates only when he feels there is a definite abscess, small or large, or that the prostate and vesiculitis has small chance of draining and resolving without operation in a reasonable length of time, that the patient's septic condition is serious, or there is definite danger of metastatic infection.

I have in my own practice (as well as observed my friends among the urologists) performed prostatectomy for supposed prostatic abscess without finding gross pus. The patients recovered rapidly, but I fear with almost a total melting down of prostatic tissue.

I do not hesitate to state that I belong to "the middle of the road" class, and the operations I have done for prostatic abscess do not total more than fifteen.

Sometimes I have found that the introduction of a catheter as an emergency for the relief of acute retention or great distention produced by a prostatic abscess, has resulted in establishing satisfactory drainage and an operation avoided. This is especially apt to be true if the catheter is left in overnight or for a day or two. A silk catheter of the bicoudee or Wishard type is comfortable and often brings about adequate drainage of the abscess in the urethra. At other times, in a man of prostatic age, when the pain is not overwhelming, there is a suspicion of prostatic obstruction other than abscess, the introduction of a cystoscope for examination may produce an appreciable tear as the urethra is straightened out by the cystoscope, and sometimes even there is a gush of pus. I wish, however, to be unmistakably understood as condemning the attempt at establishing drainage of these abscesses with a urethral sound as advocated by Stevens of New York.

As to the diagnosis, it is often difficult. Some have excruciating pain, hardness and swelling, but no fever. The blood count is not always reliable. If one waits for fluctuation, however, an irreparable amount of damage is done and patient is subjected to the extreme danger of metastatic infection.

Happy may be that man who, in the midst of the struggle to keep up the ever-increasing pace, to climb each succeeding hill and reach each near or distant goal, is overtaken by some turn of fortune, even if it be illness, which may compel a pause. Look not upon it as a misfortune of necessity, for it may be a blessing in disguise; an opportunity to be seized upon. Now you may read those books you have not had time to turn to and cultivate the friendships the true worth of which you had not realized. Now is the time to dally with the art of correspondence, perhaps to develop an avocation which will stand you in good stead again. Better still you may avail yourself of the opportunity to discover or strengthen a philosophy of living which will make you better in your work, when you take it up again, more unselfish in your dealings with others, better able to evaluate properly the difference between living for the future only and living in the present but for the present and future both.—*Boston M. and S. J.*

According to the "Wall Street Journal," bootlegging is now the fifth largest industry in the United States, has less hazards, a quicker turnover and greater profits than any other industry, and points out the great glories to be obtained from engaging in that business.

LUNG COMPRESSION AND SURGERY OF THE LUNG FOR THE RELIEF OF TUBERCULOSIS

Symposium by

PHILIP KING BROWN * AND LEO ELOESSER

Read at the Nevada Medical Association Meeting, September, 1926

PHILIP KING BROWN—Bacmeister of St.

Blasien reported this last spring that, among all patients with clearly demonstrable pulmonary cavities which x-ray examination has shown to be at least the size of a cherry, only 20 per cent were still alive after six years of conservative treatment, including sanatorium treatment.

The last twenty years has witnessed marked advances in the treatment of pulmonary tuberculosis. Compression of the lung by the procedure known as artificial pneumothorax needs no defense, and physicians who have studied their cases thoroughly, using x-ray plates to check the findings while giving pneumothorax, have extended its use even to bilateral cases using a moderate degree of compression on both sides. This treatment is in line of advance of the idea that in rest of the diseased area lies the greatest chance of stopping the progress of the disease and preventing hemorrhage. Rest has been the one form of treatment that has stood the test of time, and the development of the maximum of rest in the diseased area has been one of the big problems in dealing with this disease. Absolute rest of the lungs is not possible, but a minimum of effort is thrown on the lungs by strict confinement of the patient to bed. In patients in whom the diseased process is confined to one side various means have been devised for lessening the work of that side. Sandbags have been placed on the affected side so that air would less easily raise the chest wall in the effort of breathing. Patients are often kept lying on the diseased side, thus limiting greatly the motion on that side, for it has been shown that far less air enters the lung in this restricting position and what does enter goes into the upper side. Finally in this country, and somewhat earlier in Italy, two physicians conceived independently the idea in unilateral cases of introducing air through a hollow needle inserted between the ribs into the cavity surrounding the lung on the diseased side. This air cushion compressed the lung evenly and could be increased at will in small amounts until a point was reached where air no longer entered the compressed side through the normal route by the trachea and bronchi, and all the work of breathing was carried on by the unaffected side. This gave ideal rest, and has resulted in a vast improvement in the number of cases in which the disease is arrested. In due time the air is absorbed and the lung again expands so that the reintroduction of air every few weeks is necessary. There are other and equally important factors influencing heal-

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1a. Mrs. M. Three large cavities on the right side not to be closed by pneumothorax which was tried repeatedly. Small amounts of air being introduced in various places.

1b. The same case after abandoning pneumothorax and performing phrenectomy. Note the high level of the right diaphragm and the diminished cavities.

ing that are brought into play by this procedure. Chief among them are the lessening of cough, expectoration and fever due to the approximation of surfaces of cavities.

The development of rest of the diseased lung in the treatment of pulmonary tuberculosis has been making strides for the last two decades, stimulated or guided by the increasing facilities for studying lung conditions during life. The x-ray plates, particularly stereoscopic, screen examination and a record of vital capacity, gives a check on what extent of rest is needed and what is safe.

It is no longer as necessary to consider the refinements of climatic influence as it is to consider the available type of medical and surgical guidance, and one hears less and less of tuberculin and climate, and more and more of physical condition.

The purely nonsurgical mechanical methods of producing relative rest are very simple:

1. Sandbags laid on the chest to limit motion.
2. A harness belt of some sort which claims to limit motion on one side.
3. Postural rest, lying twenty-three and one-half hours a day on the side in which the limit of motion is sought.

Of the sandbag method I cannot speak from experience, for, although advocated by as able a clinician as Henry Sewall, it has never appealed to me as possessing elements of comfort conducive to repose. The chest belt I have tried and studied under spirometer control without being able to convince myself that it did much good. Even pleurisy pain is not relieved by it as effectively as by the old-fashioned broad adhesive strap applied all around the waist. A belt so applied, however, has been of the greatest benefit in lessening the excursion of the diaphragm, and seems of definite benefit, especially in basal cases. Postural rest, so strongly advocated by Gerald, Webb, and Forster, almost to the exclusion of pneumothorax in unilateral cases, deserves maximum consideration among the mechanical nonsurgical methods of inducing one-sided rest. The

very fact that its strongest advocates use it "almost to the exclusion of artificial pneumothorax" is its chief recommendation. Patients are encouraged to lie on the affected, or chiefly affected side practically the entire twenty-four hours, turning over twice a day for fifteen to thirty minutes to facilitate the drainage of secretions, especially from cavities.

This brings me to a consideration in retrospect of what the x-ray has done to guide the treatment of pulmonary tuberculosis, as well as access. Within a few months there has appeared in a German therapeutic journal an article by Bacmeister of St. Blasien, Switzerland, based on his own experience and compilation from literature in which this statement is made:

"Among all patients with clearly demonstrable pulmonary cavities, which x-ray examination has shown to be at least the size of a cherry, only 20 per cent were still alive after six years of conservative treatment (sanatorium treatment included). This shows that larger cavities which do not show definite signs of shrinking within the first two or three months of internal therapy and treatment in a sanatorium, lead to death, unless the doctor or the body itself by the formation of exudate interferes actively."

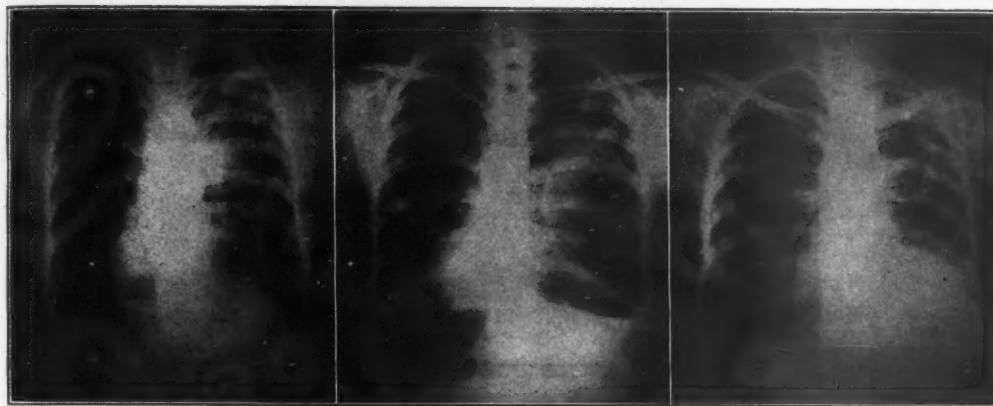
What are the means of active interference?

1. Phrenectomy.
2. Artificial pneumothorax.
3. Thoracoplasty.
4. Thoracotomy.

Suffice it to say that if a patient with a largely unilateral process has shown no definite encouraging improvement in clinical signs and x-ray outlines under the most exacting rest in bed within two months a consideration of surgical interference is in order, and in all cases where cavities of any size are demonstrated by x-ray plates, active surgical interference should be kept in mind from the start. If the first of the three procedures be justified, and sufficient benefit to be encouraging should not follow, the next step is in order by the same reasoning that justified the first move.

Leo Eloesser—Surgical Treatment of Pulmonary Tuberculosis—The surgical treatment of pulmonary tuberculosis has aroused so much interest in the last few years that I am impelled to preface a recital of my experience with an admonition rather than with an outburst of enthusiasm. For the course of tuberculosis is notoriously difficult to foretell, and the necessity for operation correspondingly difficult to judge of. Hasty judgment is impossible, and every patient should be carefully and patiently observed before deciding whether or not to operate.

Our operations aim to set the diseased lung at rest, and to cause open suppurations, cavities to close. In which patients nature will accomplish this, which patients should be operated on, and by what



2a. Mrs. S. Extensive right-sided tuberculosis with cavity formation.

2b. Ineffectual closure of the upper lobe cavities by pneumothorax, due to extensive adhesions. Marked positive pressure used.

2c. Striking improvement following phrenectomy with continuance of the pressure from above by pneumothorax.

methods, are the questions that observation must solve. The question is sometimes simple, sometimes difficult. The patients in whom it is easy to answer are the ideal ones for operation, nature herself points the way.

There are several things we must make clear to ourselves before considering operation. We must recognize that while we can collapse a lung or close a cavity by compressing it we cannot raise the patient's power of resistance to the disease by any surgical measures. And we have long learnt to recognize that the severity of the disease is measured not by the amount of lung involved, but by the systemic reaction. We know that there are patients with a small patch at one apex who react with high fever, rapid pulse, weakness, sweats and all the signs of a severe toxemia, who are irrevocably doomed; and that there are others who have lived to an overripe old age with both lungs studded with fibrous tubercles, coughing, spitting, but carrying their bacilli about with them with no more systemic reaction than they would have from a tapeworm. Very sick patients then, with not much to show for their sickness in their lungs, those with a rapid decline, high fever, sweats and emaciation, make poor subjects for operation. Surgery cannot stop their toxemia.

We must furthermore make it clear that we cannot put both lungs at rest at the same time, and that if we put one lung at rest the other must be sufficiently sound to bear with impunity the increased respiratory burden we thrust upon it. We must not consider operation, therefore, when both lungs are badly affected.

After excluding these three groups, those with mild tuberculosis who recover with medical care, those with rapidly advancing lesions, and a severe toxemia—the old "galloping consumption"—and those who have both lungs badly affected, there remains a small, but still a large enough group in whom operation may be considered.

We said that nature often pointed the way. Her first pointer is in the duration of the disease. Phthisics who have lived on, stubbornly resisting

every effort at cure, for three, five, seven years and more, give by their stubbornness *prima facie* evidence of their resistance. Some anatomical reason underlies this resistance to cure, usually a cavity so large that nature cannot close it.

The second pointer lies in a shrunken chest. Nature has blazed the way which we are to follow; for our surgical efforts aim to compress the chest in various ways. If the natural course of the disease has been toward shrinkage and fibrosis, it is not unlikely we can further the shrinkage by operative measures. Patients then with mainly one-sided lesions, with chests one side of which is shrunken and stands still on respiration, who have for years stubbornly resisted treatment by other means, these are the ones in whom surgical operation is to be thought of.

Compressing a lung by means of artificial pneumothorax should be tried first. Often it will not succeed, especially in the much shrunken chest; the obliterative adhesive pleurisy that has caused the shrinkage makes it impossible to introduce air into the pleural cavity.

Sometimes we will be able to get air into a part of the chest, usually the unaffected part, but the cavernous lung will remain uncomplicated. In these patients we can supplement the pneumothorax with a partial thoracoplasty.

Not infrequently one large cavity remains uncollapsed in the middle of an almost complete pneumothorax, being held distended by various strands and bands of pleural adhesions. We can open these chests, tie off the adhesions, sever them with a galvanocautery, close the chest and keep on with the pneumothorax, more or less effectually—in other words, do an intrapleural pneumolysis. Or we can introduce an endoscope (athoracoscope) into the chest through a small incision and cauterize the adhesions (Jacobaeus' method).

If the pneumothorax is successful and complete, however, we can collapse a lung much more completely and easily by it than by any major surgical procedure.

If pneumothorax is impossible we have still other

ways in which to influence the walls that keep the lung distended. These walls are three—the thorax, the largest and most rigid one; the diaphragm, the smallest, but the most movable; and the mediastinum.

The mediastinum we cannot influence surgically, indeed we need not, for it is so yielding that it will of itself follow the lung.

We can influence the diaphragm by robbing it of its nerve supply, paralyzing it, and causing it to rise into the chest by pressure of the abdominal viscera underneath. We can destroy the phrenic nerve, or nerves—for there is often a double one—by exposing them just above the clavicle and slowly avulsing them. This diaphragmatic palsy does not much reduce the capacity of the chest, perhaps not more than one-fourth to one-fifth, yet the operation is easy, not productive of shock, and it is useful, especially when we are in doubt whether the better lung is able to bear an added load. If the better lung reacts badly after avulsion of the phrenic nerve, or if dyspnea increases we had better not go on. No dyspnea and no progression of tuberculosis in the better lung are signs that we may more safely proceed to further collapse.

The rib-cage is the major factor in keeping the lung distended; its movements make up three-fourths or four-fifths of respiration; the rigidity is what holds the lung from collapse.

By resection of all or a great part of the ribs we can materially reduce the capacity of the thorax. It is not necessary to resect a long piece of each rib. If they are resected well toward the spine a small resection will suffice. In order to obtain a good collapse, however, we must resect the upper ribs, especially the first, for one rib hangs from the other like the shutters of a Venetian blind, and when the first is resected the whole chest drops down from the top.

There has been considerable discussion where to begin with the resection, above or below. I shall not go into these technical details.

In extraction of the phrenic nerves, in multiple rib resection, in pneumothorax, and in the combination of two or all three of these procedures lie the means we have of artificially collapsing the lung and setting it at rest.

The results of operation are roughly: one-third of the patients are cured; one-third are improved; one-third die sooner or later. The mortality of the operation is low; for phrenectomy practically nil; for thoracoplasty not over 10 per cent.

The results are not so bad when one considers that only patients that have stubbornly resisted other forms of treatment have been operated upon. The one-third of cures may be reckoned as clear gain; the one-third of dead as inevitable sacrifices to the disease.

Our statistics may improve in time as we learn better to judge of the course of the disease and to recognize at the outset forms that are hopeless under medical treatment but not so after operation.

My own statistics are, as follows:

From April, 1921, there were done for pulmonary tuberculosis: seventy-seven operations on sixty-two patients. Thirty-two patients had thoracoplasties—

—one died of the immediate effects twenty-four hours after operation; one ten days later of an acute caseous pneumonia; three others died of their disease; one six months, one two years, one four years after operation. I cannot yet say how many of the remaining twenty-seven are cured—probably ten of them. By cured I mean free of all symptoms and able to work.

The phrenic nerve was avulsed twenty-five times: there was no operative mortality; five of these patients died later of the course of their disease; seven of the remaining ones had thoracoplasties done—only one of the twenty-five was cured or strikingly benefited by the phrenic operation alone.

There were five intrapleural pneumolyses—three of them are cured; there were no deaths.

So that the operations are not dangerous. The one death of the seventy-seven operations was avoidable. I did more at one stage than the patient should have been called upon to stand.

And while some of the patients under observation will doubtless still succumb to their disease, others whom we look upon as doubtful may in time recover.

Diagnosis of Renal Tuberculosis.—In 3766 other cases of pulmonary tuberculosis reported by various observers, kidney involvement was found macroscopically at necropsy in 588, or a little more than 15.5 per cent. Microscopic examination in a similar, although smaller, series of cases revealed infection of the kidney in more than twice this number. William E. Stevens, San Francisco (*Journal A. M. A.*), says that unquestionably, involvement of the kidneys occurs more frequently in the presence of active pulmonary tuberculosis than is generally appreciated. The presence of tubercle bacilli in smears of the bladder or kidney urine, or a positive guinea-pig test does not necessarily indicate renal involvement, as these organisms may occasionally be excreted by a normal kidney. Tuberculosis of the epididymis, prostate or seminal vesicles, primary so far as the genitourinary tract is concerned, is also often responsible for tubercle bacilli in the bladder urine. The very frequent association of genital and renal tuberculosis in the male, however, should be remembered. Tuberculosis of the female genitalia, on the other hand, is seldom associated with tuberculosis of the kidneys. Guinea-pig inoculation is not by any means infallible. In some cases the guinea-pig tests have been negative but the smears positive. Tubercle bacilli were demonstrated at some time in 83 per cent of the specimens of urine from kidneys that Stevens found to be tuberculous at operation. The subcutaneous injections of tuberculin is occasionally of diagnostic value, but only from a positive standpoint. A rise in temperature, accompanied by a focal reaction such as increased pain in the kidney region, more frequent urination and more pus and tubercle bacilli in the urine, is significant. Information obtained by this procedure is also often of value when there is a question as to involvement of the opposite kidney. The roentgenographic observations in renal tuberculosis are positive in a much larger number of cases than is generally appreciated, and this procedure should be more frequently employed in the diagnosis of renal tuberculosis. Tuberculosis of the kidneys occurs more frequently in children than is indicated by most of the statistics appearing in the literature, and modern urologic diagnostic procedures, such as cystoscopy, ureteral catheterization, functional kidney tests and pyeloureterography, are frequently indicated in infants and children as well as in adults. Renal tuberculosis is uncommon as a complication of pregnancy, although it is probably often overlooked.

A movement is on in Pennsylvania to have the legislature adopt a state flower. Some variety of grafted plum should be appropriate in that commonwealth.—Louisville *Courier-Journal*.

**POISONOUS SPIDER BITES, WITH ESPECIAL
REFERENCE TO THE LATRODECTUS
MACTANS**

**A CLINICAL AND HISTORICAL STUDY OF A
WIDESpread BUT LITTLE KNOWN
CONDITION**

By EMIL BOGEN AND PHOEBUS BERMAN*
(From the Los Angeles General Hospital)

THE EDITOR: The importance of arachnidism caused by the bite of *Latrodectus mactans* (Black Widow spider) is usefully re-emphasized by Bogen and Berman in this discussion.

The wide prevalence of this dangerous spider in certain sections of California is not generally recognized. Although the bite is rarely fatal, it does produce serious acute illness with distressing symptoms which may easily lead the unwary physician to make a wrong diagnosis and even subject the patient to needless surgical interference.

A CLINICAL complex closely simulating an acute abdominal disease may be produced in man by the bite of the *Latrodectus mactans*, a poisonous spider of North America commonly known as the Black Widow, shoe button, or hourglass spider. Fifteen patients suffering with this condition have been treated at the Los Angeles General Hospital in recent years. The diagnosis was not made at the time of admission in the first five instances, perhaps because we were not then familiar with the disease, for there has been no difficulty in recognizing the eight cases which were seen during the last year. A brief summary of the case reports may help to visualize the condition encountered in these patients.

CASE 1—A Mexican laborer, age 29, while sitting in an outdoor toilet at Palo Verdes was bitten on the penis by a spider. He had severe pain and muscle spasms, which lasted about two days.

CASE 2—A Mexican laborer, age 25, was admitted, doubled up in acute pain in the abdomen, legs and arms, with a tentative diagnosis of acute appendicitis. The abdomen was rigid but not tender, and the temperature was 101+. He stated that he had been bitten on the side of the abdomen by a black spider, and in two days was discharged as well.

CASE 3—A Hungarian laborer, age 37, while sitting in an outdoor toilet in Los Angeles was bitten on the penis by a black spider. The severe pains which followed spread up the inguinal region on each side into the abdomen and thighs. On admission he was writhing in pain, cyanotic, the abdomen was rigid although not tender, and the knee jerks were hyperactive. He vomited several times and had urinary retention requiring catheterization. The systolic blood pressure was 170, the white blood count 13,750. Although the most severe pains had diminished within twenty-four hours, it was five days before he was able to leave the hospital.

CASE 4—An American acetylene welder, age 42, was admitted with a tentative diagnosis of acute appendicitis. A severe pain, starting in the scrotum and lower right

quadrant, had spread over the entire abdomen, which was of a board-like rigidity, but showed no areas of tenderness. Profuse perspiration, respiratory distress, urinary retention requiring catheterization, obstinate constipation, a fever of 100+, and a leukocytosis of 21,800 with a trace of albumin in the urine complicated the picture, and the suggested diagnoses varied from lobar pneumonia to food poisoning, ruptured gastric ulcer or acute appendicitis. However, the symptoms soon subsided, and the patient remembered that five minutes before the onset of the pain he had been bitten on the end of the penis while in an outdoor privy. Several days later he was discharged completely recovered.

CASE 5—An American watchman, age 51, was bitten on the penis by a spider while in an outdoor toilet in Baldwin Park. Severe pain was felt in the lower abdomen, extending into the thighs and accompanied by vomiting, hiccuping, and marked nervousness. The blood pressure rose to 165 systolic, the stool contained blood, the urine a trace of albumin, and the temperature went up to 100. All symptoms subsided, and the patient was discharged three days later.

CASE 6—An American cowboy, age 22, was bitten between the shoulders by a black spider. Pain arose in the back and spread to the chest, abdomen and legs, and he became dizzy, cyanotic, short of breath, and vomited repeatedly, remaining in the hospital for nearly a week.

CASE 7—A Mexican laborer, age 25, while sitting in an outdoor toilet was bitten on the penis by a spider. He complained of severe abdominal pain and his abdomen felt very rigid, but was not tender. The white blood cell count was 13,600. He perspired freely and by the next day was able to leave the hospital.

CASE 8—A Mexican laborer, age 18, was bitten on the penis by a black spider in an outdoor toilet. Severe pain radiated down his legs and up over the abdomen, and speech and even breathing became difficult. Other symptoms included profuse perspiration, vomiting, cyanosis, constipation, and a temperature of 100. The abdomen became very rigid but not tender, reflexes hyperactive, systolic blood pressure 152, white blood cells 18,700. The patient remained in the hospital for nearly a week.

CASE 9—A Mexican laborer, age 38, while sitting in an outdoor toilet in Belvedere was bitten on the penis by a small black spider. When seen an hour later he was doubled up with pain in the abdomen, chest, legs, arms, and back of the head. Nausea, vomiting, temperature 100, profuse perspiration and intense thirst followed. The abdomen was markedly rigid throughout but not tender, the knee jerks were hyperactive, and the scrotum was contracted and penis erectile. The blood pressure was 154 systolic, the white cell count 16,000 with 89 per cent polymorphonuclears, and the urine contained numerous casts. The most acute pain began to subside within twenty-four hours, but the patient remained in the hospital for more than a week.

CASE 10—A negro laborer, age 36, was bitten on the penis while in an outdoor toilet. This was followed by a severe cramping pain in the groins and legs, later spreading to the chest and arms. The abdominal wall was very rigid but not tender, the scrotum contracted, and the body covered with a profuse perspiration. The systolic blood pressure was 150, the white count 12,400, the urine contained a trace of albumin and occasional casts, and the temperature rose to 100. Twelve hours after the bite he was given 40 cc. of whole blood taken from the previous patient, intramuscularly, and within a few hours was feeling greatly relieved, and left the hospital on the third day.

CASE 11—A German painter, age 49, was bitten on the scrotum by a spider in an outdoor toilet in Los Angeles. Pain gradually spread over the groins and back and became very severe in the chest and legs. The abdomen was markedly rigid, the knee jerks hyperactive, and the white blood count was 16,400. The pain diminished within twenty-four hours, and the patient went home the next day.

CASE 12—An American carpenter, age 45, was bitten on the penis by a spider while in an outdoor toilet in Monterey Park. A sharp pain spread from the groins

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Phoebus Berman (1100 Mission Road, Los Angeles). M. D. University of Southern California, 1919. Graduate study: Los Angeles General Hospital; intern, resident physician and instructor of interns last seven years. Hospital connections: Los Angeles General Hospital, assistant superintendent in charge of attending and house staffs, senior instructor of interns. Practice: Work at the Los Angeles General Hospital since 1919.

over the entire body, and was accompanied by chills, nausea, vomiting, fever up to 100, and drenching sweats. The abdomen was rigid and tender, the systolic blood pressure was 150, the white blood cell count 14,600 with 94 per cent polymorphonuclears, and the reflexes were hyperactive. Fourteen hours after the bite, 15 cc. of convalescent serum was injected intramuscularly, and the next morning the patient was feeling much better, but he stayed in the hospital for three days.

CASE 13—An American factory worker, age 16, was bitten on the back by a black spider while at work. Aches and pains in the arms, legs and back, increased until the boy was doubled up in agony, the abdomen became rigid and the body was covered with perspiration. The systolic blood pressure was 150 and the white blood cell count 12,600. Seven hours after the bite he was given an intramuscular injection of 15 cc. of convalescent serum, and soon felt much relieved, leaving the hospital the next morning.

CASE 14—An American laborer, age 65, was bitten on the scrotum by a black spider in an outdoor toilet. Severe pains, especially in the back, were followed by numbness and tingling in the hands and feet and general weakness. He came to the hospital several days later, bringing the spider, a *Latrodectus mactans*, and was treated in the outpatient clinic for a number of days, complaining of marked weakness.

CASE 15—An American boy, age 14 months, was bitten by a black spider while sitting on a wicker stool. He cried out and continued to moan in pain, even after he had been rendered stuporous by heavy doses of chloral and morphin, and developed urinary retention, board-like abdominal rigidity, and edema of the legs. Six hours after the bite he was given an injection of 20 cc. whole blood from a convalescent patient, and soon after dropped to sleep and the next day was practically recovered.

COMMENT

From the records just cited we see that most of our cases of poisoning from spider bites were men who had been bitten on the penis while sitting in an outdoor toilet in and about Los Angeles, after dark, in the late summer or early autumn. Most of the patients had seen the spider, which they described as black and shiny, and several mentioned the red spot on its belly or identified a specimen of *Latrodectus mactans* shown them. In no instance was there any marked swelling or inflammation present at the site of the bite. Severe pain, arising soon after the bite and increasing in intensity for an hour or two, was a constant complaint. It started generally in the neighborhood of the bite, but soon spread, and was localized in the abdomen and legs in nearly all of the patients, but was also felt in the chest, arms, genitals, groins, back, and "all over" in many. The pain, which was described as intense, excruciating, agonizing, severe, throbbing, cramping or aching, and was evidenced by writhing, tossing, doubling up and moaning, persisted for from four to eight hours undiminished and then gradually subsided during the course of the next twenty-four hours, but complete relief was not experienced for a number of days, and often not for a week.

Profuse perspiration, restlessness, nausea and vomiting, constipation, and dyspnoea were prominent symptoms, but vertigo, ataxia, chills, urinary retention, localized edema, and persistent hiccough were also noted. The abdomen was extremely rigid, but tenderness was usually absent, the reflexes were hyperactive, and priapism was noted in one instance.

A mild fever, generally around 100 and in no case going above 101.6, was usually found, but the

daily fluctuation in temperature was increased, and many of the patients showed a subnormal temperature at some time. The pulse was generally slow as compared with the temperature, being below 66 in more than half of the patients at some time, and the respiration, although occasionally accelerated for short periods at first, soon approximated a normal rate. The blood pressure was elevated in every instance, averaging 150 mm. mercury systolic with 87 diastolic on admission, but dropped rapidly on later readings. Leukocytosis was present on admission, averaging 14,800 in the cases examined on the first day in the hospital, the highest count being 21,800, but by the third day the average white blood count was only 10,700, the lowest being 5900. There was generally a relative increase in the polymorphonuclear leukocytes on the date of admission. The red blood count was variable, being above normal in several instances, and the color index was about one. Four of these patients had a positive Wassermann reaction. A trace of albumin and a few hyaline or granular casts were found in the urine in six cases, and blood was reported once.

As Doctor Bolotin observed, it is almost pathognomonic of spider bite for the physician reporting the case to say that he has been unable to find any similar cases reported in medical literature. Intensive search, however, revealed nearly 500 articles reporting cases of spider bites, or studies of spider venoms, in every part of the world. More than 150 instances of systemic poisoning from spider bites have been reported in the United States during the last hundred years, from more than a dozen states, but two-thirds of the cases recorded were in the state of California. Women have been rarely affected, and most of the patients were bitten on the penis while sitting in an outdoor privy in the evening in summer or fall. Local swelling or inflammation was uniformly absent, but acute pain was a constant symptom. This pain appeared soon after the bite, spreading apparently by contiguity over the abdomen, legs, chest, back and "all over," became intense, excruciating and agonizing within an hour or two and remained undiminished for more than six hours, then gradually subsided in the course of a day or two, but was not entirely gone for several days thereafter. It was often accompanied by profuse perspiration, nausea, vomiting, dyspnoea, mental perturbations, constipation, cyanosis, prostration, insomnia, speech difficulties, and acute urinary retention, and paralysis, convulsions, edema, rash, chills, vertigo, cramps, and jaundice have been described. An extreme board-like rigidity of the abdomen was the most striking physical finding, although abdominal tenderness was generally not mentioned, and tremors, twitching, muscle spasms and priapism have been reported.

TREATMENT

The constancy of the symptoms and findings in spider-bite poisoning is rivaled by the diversity of the treatments that have been employed. More than seventy-five remedies have been administered, each with the greatest confidence that this was the best line of treatment. Morphin, opium and laudanum, whisky or brandy, ammonia, atropin, magne-

sium sulphate, hot baths and fomentations, enemas, blood letting, strychnin, camphor and potassium permanganate have been among the most popular treatments, and one patient was operated on under the impression that he had an acute appendicitis. Nearly a dozen patients are reported to have died from the effects of a poisonous spider bite in the United States, but detailed descriptions are available in only a few instances. In these the symptoms seem to have been the usual ones, perhaps a little more severe, and death ensued in from fourteen to thirty-two hours.

The treatment at the Los Angeles General Hospital consisted of (1) sedation, with morphin, codein, bromides, chloral, veronal and hot applications; (2) stimulation, with spirits of ammonia, caffeine and strychnin; and (3) elimination, with magnesium citrate or epsom salts, castor oil, calomel, enemas, catheterization, and gastric lavage. Although we have not yet had a fatality, the large doses of narcotics required to give adequate relief made it desirable to seek some more efficient form of treatment. Convalescent serum was given intramuscularly in the last four severe cases. The results, while not absolutely conclusive, are sufficiently encouraging to warrant the continuation of the use of this treatment, and accordingly a supply of convalescent serum is now kept at the hospital in readiness for this purpose.

Desultory conversation with Californians shows that the condition of spider-bite poisoning is not a rare one, and the fact that eight patients were admitted to our hospital during the past year from this condition testified to the severity of the symptoms that may develop. Perhaps the usual location of the bite may disappear with the advance in building and plumbing in the state, but the abundance of these spiders in southern California make them an ever present menace. Even in the absence of a known history of spider bite or sting, an excruciating pain spreading over the entire body and becoming especially severe in the abdomen, legs and back, accompanied by nausea, vomiting and constipation, and a board-like rigidity of the abdomen, without definite abdominal tenderness, together with a low-grade fever, leukocytosis, and high blood pressure and spontaneously subsiding within a few days, form so constant a clinical picture as to justify a strong suspicion of arachnidism, or poisoning by the bite of the *Latrodectus mactans*.

This study was made possible only by the encouragement, advice and assistance of friends and co-workers too many to mention here, and it is with a deep sense of gratitude that we acknowledge indebtedness to all who have smiled upon this work and helped it to prosper. It is hoped that anyone who knows of any cases or facts in regard to this subject which have escaped our notice will communicate this information.

Science can occasionally treat disease successfully, and medicine should not forsake her precepts; but without the aid of that subtle art of understanding his fellowman, the physician will fail in successfully treating his patients.—George Draper, M.D., *Harper's Monthly Magazine*.

RICKETS AT HIGH ALTITUDES, WITH SPECIAL REFERENCE TO ITS OCCURRENCE IN UTAH

By EUGENE H. SMITH *

NO COMPREHENSIVE survey of the geographic distribution of rickets in the United States has been attempted. Most of the intensive studies of the disease have been made in large centers of population, at or near the sea coast, and among the dispensary classes.¹ As a small contribution to such a survey the following data are offered. They summarize observations made during a period of about three years in a small city situated upon the semi-arid western slope of the Rocky Mountains. The children were from families representing, as might be said, a cross-section of an average American community. Exclusive of a small group of Japanese children, tabulated separately, they were almost, without exception, of native parentage. About one-half were observed in the community well-babies clinic. This institution is not regarded as a charity, and as a consequence its clientele is drawn from all classes. The others were observed in the course of a general pediatric practice, and the findings in both groups are the result of my personal examinations.

The general hygienic surroundings of these children were much better than those of the poor of the larger cities. Ample fresh air and sunshine were available for all, and outdoor life is possible during the greater part of the year. Most families occupy detached one-story houses, and overcrowding is almost unknown.

GEOGRAPHY AND METEOROLOGY

Ogden, Utah (population about 35,000), is situated at an elevation of 4310 feet above sea level, with the Wasatch range of the Rocky Mountains (10,000 feet) rising abruptly to the east, and facing the Great Salt Lake Basin on the west. Its latitude is 41.1 degrees north, almost exactly that of New York City. Yearly averages for certain meteorological conditions prevailing in this region are compared with those of several of the coast cities of the United States in Table I.

The average of the actual hours of sunshine in this locality is therefore much greater than that of the coastal cities with the exception of Los Angeles. It is a region of scanty precipitation, low humidity, with a yearly temperature average about the same as New York City. Regarding the distribution of sunshine during the year, it may be added that, during the months of December, January and February, the sunshine averages 44, 45 and 47 per cent

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TABLE I

A COMPARISON OF METEOROLOGICAL CONDITIONS PREVAILING IN UTAH WITH THOSE OF CERTAIN SEA COAST CITIES - ANNUAL AVERAGES.

	LATITUDE	ACTUAL HOURS SUNSHINE	CLEAR DAYS	PRECIPITATION	HUMIDITY		TEMPERATURE
					AM	PM	
SALT LAKE CITY	41.1 N	2905	153	16.37	60	47	51.6
LOS ANGELES	34.3 N	3187	173	15.24	78	62	62.
SEATTLE	47.4 N	2022	76	33.43	87	67	51.3
NEW ORLEANS	30.0 N	2530	128	57.42	78	69.0	
NEW YORK	41.6 N	2638	107	44.63	74	68	52.

of possible, and during the months of June, July, August and September, 76, 80, 75 and 75 per cent.

ALTITUDE AND LATITUDE

In view of the undoubted value of the ultra-violet rays of the solar spectrum in the prevention and cure of rickets, great interest attaches to a study of the comparative richness in these rays of sunlight at high and low altitudes. Exact figures for the relative values for the shortest wave lengths at different altitudes are not yet available. Measurements of the ultra-violet radiations from the sun made at Mount Wilson, California, altitude 5800 feet, show that there is a considerable variation in the amount of ultra-violet light received from the sun from day to day, amounting to about 35 per cent in the extreme. Whether this is due to variation in ozone content of the earth's atmosphere or to the sun itself, or in part to both, has not yet been settled. No direct measurements have yet been made at sea-level (by the Mount Wilson Observatory) for comparison with those made at the higher altitude. However, measurements of radiations for different altitudes of the sun show that when the amount of air through which the beam of light travels is doubled, the ultra-violet light is diminished 68 per cent of its value on a clear day, which would approximate the figures one might expect in going from the mountain to sea-level. These observations refer to radiations of 310 millimicrons.²

Table II, taken from a paper by Mr. Herbert H. Kimball, Meteorologist in the United States Weather Bureau, Washington, D. C. (to be published), while it deals with wave lengths greater than those which probably have any specific influence on rickets, is of interest in this connection. The following points brought out by these figures may be emphasized:

1. The much higher values of energy from solar radiation at Mount Wilson than at Washington, with the sun at the same zenith distance.
2. The more marked decrease in values of these radiations with the sun at greater zenith distances, at Washington compared with Mount Wilson.
3. The richness in these rays of the diffuse radiation

from the sky, and their fairly even distribution at different zenith distances, after the maximum has passed.

Since atmospheric absorption is probably the chief obstacle to the passage of these rays to the earth's surface, it is evident that the altitude of the sun above the horizon will be an important factor in determining the richness in ultra-violet rays of sunlight at any given point. Therefore, other things being equal, the nearer to the equator and the closer the approach of the sun to the zenith, the less will be the absorption. Thus latitude will be seen to be the second geographic factor which may influence the incidence of rickets.

The following table summarizes the physical findings in 233 cases of rickets observed in this region during a period of about three years. Included in this series are 109 cases found in the course of the examination of 597 consecutive children at the infants' welfare station, an incidence of 18.2 per cent. Sixteen, or 26 per cent, were found in a group of fifty-four Japanese children.

SEASONAL INCIDENCE AND AGE

Since these infants were not under constant observation from birth no conclusions can be drawn as to the time of year or the age at which the condition first became manifest. The figures given merely indicate the season and age when the child first came under observation.

FOOD

These babies were breast fed in quite a large proportion of cases. Of 212 infants 158 were breast fed for six months or longer. Some of these were

TABLE II

RELATIVE INTENSITY OF RADIATION FROM THE SUN AND SKY AT WAVE-LENGTH 397 m μ , AS RECEIVED ON A HORIZONTAL SURFACE, WITH THE SUN AT DIFFERENT ZENITH DISTANCES, Z.

AVERAGE CLOUDLESS DAY.

	WASHINGTON D.C. LATITUDE 38.53 N SEA LEVEL	MT. WILSON, CALIF. LATITUDE 34.3 N ALTITUDE 5800 FEET
SOLAR, Z 25°	151.	217.
SKY	135.	73.
TOTAL	286.	290.
SOLAR, Z 60°	46.0	89.5
SKY	80.3	58.5
TOTAL	146.	148.
SOLAR, Z 70.7°	15.9	43.0
SKY	64.7	50.5
TOTAL	80.6	93.5
SOLAR, Z 78.7°	2.6	13.5
SKY	50.9	45.8
TOTAL	53.4	59.3

TABLE III

SUMMARY OF CLINICAL SIGNS FOUND IN
233 CASES OF RICKETS

BREAST 6 MO. OR OVER	FEEDING		CRANIO- TABLES	OPEN FONTANELLE ^①	CHEST DEFORMITY	BEADING RIBS	DELAYED DENTITION ^②	POOR MUSCLE TONE	WIDENED RADIAL EPIPHYSIS	BOW LEGS	AGE			
	BREAST OVER 1 YR.	ARTIFICIAL									1 TO 6 MO.	6 MO TO 1 YR.	OVER 1 YR.	
158	22	54	6	15	142	215	12	95	51	21	14	45	98	74
JAPANESE CHILDREN													12	
16	9	0	0	1	9	16	0	9	1	8	1	0	4	12

① LARGE AT 18 MONTHS

② FIRST TOOTH AT 1 YEAR OR LATER.

③ WALKED AT 14 MONTHS OR LATER.

given some form of supplemental feeding, usually modified cow's milk. Twenty-two were nursed longer than one year. In fifty-four instances the baby was taken from the breast before it had reached the age of 6 months. Most of the artificially fed were given modified cow's milk, and the number fed on condensed milk and "drug store" foods was noticeably small.

BEADING

This was by far the most constant symptom, and occurred in practically all cases. Slight beading in young infants without other signs of rickets was disregarded.

CHEST DEFORMITIES

Under this heading are included flaring of the costal borders, Harrison's groove, and lateral narrowing of the thorax. Among our babies a typical circular symmetrical chest is rather rare. Some degree of lateral narrowing or flaring is present in such a large proportion of infants under 2 years that their absence is a matter of comment. The frequency with which they occur without other indications of rickets forces the conclusion that other conditions must often produce these deformities.

MUSCLE TONUS

Poor muscle tone must be looked upon as one of the outstanding symptoms of rickets. Even in the absence of bony deformities, its presence in marked degree strongly suggest the presence of the disease. In the development of chest deformities and protuberant abdomen the factor of the lack of muscle tone is very evident. Furthermore, if the tone of

the skeletal muscles is any criterion of those of the organs of circulation, digestion and respiration, the physiological functions of these systems must of necessity be greatly impaired, and their response to effort and their resistance to disease greatly impaired.

EPIPHYSIS

No radiological studies of the epiphyses were made in these cases and note was made only of widening of the lower end of the radius as determined by inspection and palpation.

CRANIOTABLES

This condition occurred infrequently among babies in this series, only six cases having been encountered in children presenting other signs of rickets. Craniotables, so frequently found in otherwise normal babies during the first few months of life, was not considered to be diagnostic of rickets.

BOW-LEGS

Bow-legs of more than slight degree was found in twenty-one instances; a few of these were very marked. Among sixteen Japanese children found to have rickets, eight had decided bow-legs. It is to be remembered, however, that more or less bowing of the tibiae seems to be a racial characteristic and is frequently encountered in rather marked degree in Japanese children with no other sign of the disease.

SUMMARY

The recent voluminous literature of rickets contains comparatively few references to the geographical distribution of the disease. In particular, few

studies appear to have been made of the incidence of the condition in localities outside large centers of population, and at considerable elevations above sea-level.

In view of the influence of the short wave lengths of the solar radiations on the development of this disease, and that fact that atmospheric absorption of these rays is greater at lower altitudes and higher latitudes, it follows that the most important geographical factors which enter into the problem of rickets would be elevation above sea-level and distance from the equator.

Rickets was found to be present in 18.2 per cent of 597 children living under excellent hygienic conditions in a small city in the western Rocky Mountain region, at an elevation of 4310 feet, lying in the same degree of north latitude as New York City.

In a series of Japanese children living in the same locality, 26 per cent had active or healed rickets.

An analysis of 233 cases of rickets indicated that the most important physical signs, in the order of their frequency, were beading of the ribs, chest deformities, and poor muscle tone. Twenty-one cases of bow-legs were noted in children having other signs of rickets.

The factors of good hygiene and sanitation, abundant sunshine and out-of-door living, together with the greater values in ultra-violet radiations of the sunlight at this altitude, probably account for the low incidence of rickets in this region, 18.2 per cent as compared with 50 to 80 per cent among the poorer classes in eastern sea-coast cities.

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3. Personal Communication, Dr. Edson Pettit, Carnegie Institution of Washington, Mount Wilson Observatory, Pasadena, California.

Spahlinger Treatment of Tuberculosis (Propaganda for Reform)—Notwithstanding the fact that the Spahlinger treatment of tuberculosis was secret and that evidence in its favor had not been made generally available, Spahlinger and his friends have repeatedly attempted to secure government endorsement of the preparation in England and to secure funds for its development. Now the records of ten patients injected by Spahlinger personally with this remedy have been reported by Dr. Thomas Nelson in the *London Lancet*. These records are decidedly unfavorable to the treatment. The evidence in favor of the Spahlinger method of treatment of tuberculosis is not sufficient at this time to warrant an extensive trial. The burden of proof is still on Spahlinger, who should at least show that in a considerable number of cases studied under controlled conditions the remedy will accomplish more than can be accomplished by the method of treatment now practiced in well-regulated institutions for the treatment of tuberculosis.—*Journal A. M. A.*, January 22, 1927.

Kloron (Propaganda for Reform)—Qualitative tests made in the A. M. A. Chemical Laboratory indicate that Kloron Tablets (J. L. Holcomb Mfg. Co.) contain Chloramine—U. S. P. as their potent ingredient. The claims made for the preparation are typical of the extravagant exploitation of official products by the "patent medicine" route.—*Journal A. M. A.*, January 8, 1927.

MONGOLISM IN BOTH OF TWINS

By LLOYD B. DICKEY*

(From the Division of Pediatrics, Stanford Medical School)

REUBEN AND KLEIN (Arch. Ped., August, 1926, 43:552-554), recently reviewed the literature on mongolism in twins. They were able to find a total of seventeen cases in one of twins, in all of which the twins were of opposite sexes. They also found recorded in the literature three cases in both of twins, and added a fourth, observed by themselves, the twins always being of the same sex.

Dietrich and Berkley (Calif. and West. Med., April, 1926, 24:498-499), report two cases of mongolism in one of twins. The first pair are both males, age 8 weeks; the second pair are females, age 5 months. In view of the fact that in all previously reported cases of mongolism in one of twins (seventeen in number) the sexes are opposite, it would be interesting to know whether these very young infants at present showing no signs, later develop evidences of this condition.

CASE REPORTS

These twins were delivered by Dr. Bertram Stone on April 12, 1914. The parents said that they were exactly alike in every respect as they grew up. As they became older, they were told by several doctors that both children were "feeble-minded." Snapshots, taken several years before the death of one twin, were shown by the parents. These showed two boys with similar facial characteristics.

W. B., twin 1, boy, age 10 years. Father was 48 years of age at birth of child, mother 43 years (now 58 and 53, respectively, living and well). Normal birth. Examination showed a very much overweight child with typical mongolian facies, slanted palpebral fissure, inner epicanthic fold, with broad base to nose. The skull was flattened posteriorly, the hair of the scalp was coarse. The nasal passages were greatly occluded, the mouth always open, and the teeth spaced. The tongue was large, and the surface slightly geographic in character. The abdomen was somewhat protuberant, the genitals infantile. The little fingers were much shorter than the others. The child was probably an imbecile rather than an idiot. He could use many words, but his sentences were poorly constructed.

B. B., twin 2. This child was not seen in our clinic. It died several months previous to the visit of its brother, of diphtheria. The records of the San Francisco Isolation Hospital show that this child had, in general, the same physical characteristics as were noted in the other twin, in our clinic. The mental condition was also recognized. It had a bronchopneumonia in addition to its diphtheria while at the San Francisco Hospital. Both twins were seen shortly before the death of one by Dr. John Sullivan, who noted the striking similarity, and whose impression was that the twins were of the mongolian type, both physically and mentally.

I wish to thank Doctor Stone and Doctor Sullivan for their cooperation in helping me assemble data for these cases.

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Special Article

CONCERNING THE ETIOLOGY AND TREATMENT OF MEASLES

By ERNEST C. DICKSON, M. D.

THE EDITOR: *Reports of the California State Board of Health which show that we are in the midst of an epidemic of measles that is widely distributed over the state makes it fitting to publish a brief review of recent investigations concerning the etiology and specific treatment of this disease. Such a review, prepared at our request by Ernest C. Dickson, Professor of Public Health, Stanford University Medical School, is submitted.*

SEARCH for the infectious agent in measles has been going on for many years. In 1758 Home¹ in Edinburgh and Herne² in France believed that they had demonstrated that measles could be transferred from a patient to susceptible children by means of cotton which was soaked with the blood of the patient and applied to incisions in the arm of the susceptibles. There is some doubt as to whether they really produced measles, although several investigators have reported that they confirmed their observations. However, in 1905, Hektoen³ proved that measles can be transferred from patients to susceptibles by injecting blood of the patients into the veins of the susceptibles, and showed that the virus is present in the blood at least twenty-four hours before and thirty hours after the appearance of the rash.

In 1917 Tunnicliff⁴ reported the isolation from the blood of measles patients of a minute, filter passing, diplococcus which produces a green pigment, and she later showed that the same organism can be cultivated from the secretions of the respiratory tract at the same time as it is present in the blood. Specific antibodies for this organism can be demonstrated in the serum of patients who are convalescent from measles, and skin tests, analogous to the Schick test and the Dick test, can be demonstrated in susceptible individuals. Moreover, Tunnicliff and her associates⁴ showed that a disease which closely resembles measles can be produced in monkeys, rabbits, and guinea-pigs, by injecting them with this diplococcus.

Several investigators, notably Thomson,⁵ Caronia,⁶ and Ferry and Fisher,⁷ have also isolated diplococci which appear to differ somewhat from those described by Tunnicliff, but still others⁸ have confirmed Tunnicliff's observations, and Hoyne and Gasul⁹ believe that the apparent differences are due to differences in cultural methods, and that all are really dealing with the same organisms.

Be that as it may, the evidence is strongly indicative that Tunnicliff, and probably the other investigators have established the bacterial cause of measles.

PROPHYLAXIS

Of more immediate interest to medical practitioners, however, is the work which is being done along the lines of prophylaxis and specific therapy of measles. This is being followed along two lines: (1) to induce the formation of antibodies by the individual himself; active immunization, and (2)

to develop means by which antibodies can be supplied to him when he needs them: passive immunization.

ACTIVE IMMUNIZATION

Attempts to induce active immunization of children who are susceptible to measles have not progressed beyond the realm of experiment, and this method cannot as yet be recommended for general application.

Investigators have approached the problem mainly along three lines:

1. It is well known that infants born of mothers who are immune to certain of the communicable diseases passively acquire antibodies from their mother's blood through the placenta, and that for four to six months after birth they are relatively resistant to these diseases.

Herrman¹⁰ sought to take advantage of this temporary passive immunity to measles and recommended that infants should be inoculated with measles by the transfer of measles virus from the nasopharynx of a patient to the nasopharynx of the infant. His object was to stimulate active immunization of the infant by injection which would be very mild because of the presence of the mother's antibodies. The method is obviously impractical, and in many ways objectionable, particularly in family practice.

2. Hiraishi and Okamoto¹¹ and Debré and his associates¹² recommended repeated injections of minute quantities of blood from measles patients, taken during the early stages of the disease when the blood contains living virus. Their results have not been uniform.

3. Sindoni,¹³ an associate of Caronia, prepared bacterial vaccines from the diplococcus which Caronia⁶ isolated from measles patients and gave repeated injections of the vaccine to susceptible children. He concluded that the results were of sufficient promise to justify further investigation.

PASSIVE IMMUNIZATION

(a) Use of convalescent serum.

In 1916 Nicolle and Conseil¹⁴ succeeded in protecting susceptible children from measles by injecting small quantities of blood serum or whole blood from patients who were convalescent from measles. Their report was published in 1918, and in that year Richardson and Connor¹⁵ reported similar satisfactory results from a group of tests in Boston. Park and Zingher, in New York, commenced their observations in 1916 and have done much to develop this method of prophylaxis.

Zingher in 1924¹⁶ reviewed the work which had been done and reported a series of cases, and in 1926 Park and Freeman¹⁷ brought the report from New York to date. These investigators found that among 753 cases treated in institutions, 84 per cent showed completely successful results; that is, the children did not develop measles after contact, whereas 95 per cent showed some degree of benefit, either complete protection from the disease, or marked attenuation of the severity of illness. In family practice, among 226 cases, the results were less satisfactory, only 52 per cent of children re-

maining free from measles although 95 per cent were more or less benefited.

Many other investigators have reported similar results, and there are no records of ill effects when care is taken to ascertain that the donors are free from syphilis, tuberculosis, and other communicable diseases.

The dose of immune serum as recommended by Park and Freeman¹⁷ is 6 cc. of serum or plasma for children under 3 years of age and 6-10 cc. for children over three. The antibody content of the serum is greatest within a few days after convalescence, but is still relatively high for at least a month. Rietschl¹⁸ recommended that serum from adults who have had measles may be used, but the dose required is much larger than when convalescent serum is used and the results are much less uniform. When whole blood is used instead of serum, double the stated dose for serum should be administered and Zingher¹⁹ states that this is not damaged by the addition of citrate and may be given intramuscularly.

Park and Freeman¹⁷ report that if the serum is given within three days after exposure to infection the onset of the disease is prevented in the great majority of cases, and if on the fourth or fifth day, the course of the disease is mild and complications are unusual. Zingher¹⁹ recommended larger doses for late administration, 7.5 cc. for children 3 years old on the seventh or eighth day being sufficient to ameliorate the course of the disease.

The duration of immunity from convalescent serum is from two to four weeks, after which the child is again susceptible to measles. It follows that its use is of greatest value in children under 3 years of age in whom the mortality from measles is very high, and in debilitated children or those suffering from other types of disease which might endanger their recovery. In older children it is recommended by some that only sufficient serum be administered to insure a mild attack of the disease as it is by actual infection that active immunization and subsequent resistance to infection can be obtained.

ANTITOXIC SERUM

Various investigators have attempted to produce an antitoxin which can be produced commercially since, at best, the available supply of immune serum must be limited. Tunnicliff and Hoyne²⁰ have recently reported successful immunization of goats with the production of a serum which has proved to be highly potent. They found that 97 per cent of individuals over 1 year of age and 98 per cent of infants less than 1 year of age were protected from measles if the goat serum was given within three days of exposure to infection, and that 45 per cent of cases over 1 year old were protected if they received the serum on the fourth day. They employed goat serum in order that there might not be sensitization to horse serum, which is the vehicle of diphtheria and scarlet fever antitoxin, and reported only 12 per cent of cases of serum disease.

These observations are of utmost importance because they indicate that in the near future we may have specific antitoxin for the treatment of measles. It should be remembered, however, that the work

is still in the experimental stage and that it may be some time before commercial serum is on a par with that for the treatment of diphtheria.

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Cass Treatment for Rheumatism (Propaganda for Reform)—One hundred and thirty-seven West Sixty-Second Street, Chicago, houses a choice line of quackery. Under the names "Western Medical Association" and "Vernon Laboratories" a fake "epilepsy cure" is exploited on the mail-order plan. Under the name "Cass Laboratories," nostrums for rheumatism, sciatica, neuralgia, lumbago, and gout are sold—also through the United States mails. The A. M. A. Chemical Laboratory reports that the "Cass treatment" consists of pink tablets, "Special Saline Compound" and gray tablets. The laboratory found the pink tablets to contain 0.6 Gm. of sodium bicarbonate per tablet. The "Special Saline Compound" was found to be essentially flavored magnesium sulphate. The gray tablets were found to contain essentially 0.16 Gm. acetylsalicylic acid, 0.13 Gm. cinchophen and 0.3 Gm. charcoal per tablet. From the laboratory's report it is seen that this wonderful discovery "developed under the direction of the head professor of chemistry at one of the nation's largest universities," and declared by "two of the foremost medical scientists in this country" to be superior to anything else in its line, is merely a combination of acetylsalicylic acid and cinchophen with sodium bicarbonate and magnesium sulphate.—*Journal A. M. A.*, January 15, 1927.

Physical Therapy and Pseudophysics (Propaganda for Reform)—Much of the literature on physical therapy has apparently been written with an eye to the royalty statement or the publicity returns rather than to the possibility of scientific criticism. These treatises become impressive, in size at least, by the inclusion of statements on the physics of the apparatus culled almost in toto from the advertising and descriptive matter published by a manufacturer. This practice might be commendable if the physical concepts were not often wholly at variance with the concepts generally accepted by physicists. The physician who desires a substantial knowledge of physical therapy must choose his sources of information carefully.—*Journal A. M. A.*, January 15, 1927.

CLINICAL NOTES, CASE REPORTS AND NEW INSTRUMENTS

TISSUE DIAGNOSIS IN THE OPERATING ROOM

AND IMMEDIATE COVER-SLIP EXAMINATIONS OF ALL FLUIDS AND PUS

By JOSEPH COLT BLOODGOOD, M. D.
(Baltimore)

I will consider it a courtesy, writes Doctor Bloodgood, if you will publish this letter in your journal, as I am anxious to come in correspondence with pathologists and surgeons interested in the immediate examination, by frozen section, of tissue in the operating room and the immediate cover-slip studies of smears from all fluids and pus.

Microscopic examination of stained frozen sections has been possible for more than a quarter of a century. The staining of unfixed frozen sections with polychrome methylene blue and other stains is a well-established procedure. In many operating rooms in university and other large and small surgical clinics, provisions for these immediate diagnostic studies have not only been available, but have been in practical use for years. While, unfortunately, on the other side, this diagnostic part of the operating room is conspicuous by its absence in many clinics.

Before 1915 it was rarely necessary for a surgeon well trained in gross pathology to need a frozen section to help him in diagnosis at the operating table. Since 1915, and especially since 1922, the public has become so enlightened that malignant disease formally easily recognized either clinically or in the gross, now appears in our operating rooms devoid of its easily recognized clinical and gross appearance and can only be properly discovered by an immediate frozen section. The majority of operating rooms are not equipped or prepared for this new diagnostic test.

The first essential part for this diagnosis is the technician—one to cut and stain the frozen section, or to make and stain the smear. The second is a pathologist trained to interpret it. It is possible for the surgeon to be all three in himself, and some young surgeons are so equipped. In others it is a dual combination—surgeon and pathologist in one, and the technician. More frequently it is three—operator, technician, and pathologist. It makes little difference whether it is one, two or three individuals, providing each has the equipment and training for this most difficult diagnostic test.

In the address as chairman of the surgical section of the Southern Medical Association I discussed biopsy, and this paper has been published in the Southern Medical Journal for January, 1927 (Vol. XX, page 18). A reprint of this paper will be sent to anyone on request. The chief object of this letter is to come in contact with surgeons and pathologists who are sufficiently interested in this problem to discuss it either by correspondence, or by attending a meeting in the surgical pathological laboratory of the Johns Hopkins Hospital, either the Monday before, or the Friday after the meeting of the American Medical Association in Washington.

Schools for technicians may have to be established in different sections of the country, and the surgical pathological laboratories of the medical schools and the larger surgical clinics should offer courses in this tissue diagnosis so that surgeons may learn to become their own pathologists, or pathologists learn the particular needs of the surgeon in tissue diagnosis in the operating room.

It is quite true that when the majority of the public are fully enlightened the surgeon will see lesions of the skin and oral cavity and the majority of subcutaneous tumors when they are so small that their complete excision

is not only indicated, but possible without any mutilation. The chief danger here will be a surgical mistake—the incomplete removal of an apparently innocent tumor. There is no necessity here for biopsy. If a proper local excision is done, no matter what the microscope reveals, that local operation should be sufficient. But when lesions of the skin, oral cavity and soft parts are extensive and their complete radical removal mutilating, then there must be biopsy to establish the exact pathology.

In tumors of the breast and disease of bone, for years, the diagnosis could be made clinically, or from the gross appearances at exploration. But now, an increasing number of cases, the breast tumor must be explored, and the gross pathology of this earlier stage is not sufficiently differentiated to allow a positive diagnosis. Immediate frozen sections are essential to indicate when the complete operation should be done. The same is true of the earlier stages of lesions of bone. The x-rays no longer make a positive differentiation between many of the benign and malignant diseases, for example, sclerosing osteomyelitis and sclerosing osteosarcoma.

We must not only specialize in tissue diagnosis, but we must organize this department so it will function properly in as many operating rooms as possible in this country.

Then there is a final and most difficult question to consider. I doubt if it can be settled. What shall be done in those operating rooms in which there is no technician to make the sections and no one trained to interpret the microscopic picture? How can a piece be excised or a tumor removed, for example, from the breast, and this tissue sent to some laboratory for diagnosis without incurring the risk of the delay to the patient. I have discussed this point in my paper on biopsy.

DON'TS IN DERMATOLOGIC DIAGNOSIS

By MOSES SCHOLTZ *

1. Do not try to make a dermatologic diagnosis from a picture in the atlas of skin diseases. In nine out of ten cases you will fail. Correct diagnosis can be made only from a study of the individual skin lesions and by analysis of differential morphologic features.

2. Do not make definite statement as to diagnosis under artificial or deficient light. A correct perception of color shadings is one of the most important factors in dermatologic diagnosis, and the daylight may completely reverse your opinion.

3. Do not base your diagnosis on history as it is given by the patient. In a majority of cases the history is unreliable and misleading. You are much safer to base your diagnostic conclusions on the present skin lesions, which supply all or most of the evidence you need. In this respect the technique of dermatologic diagnosis sharply differs from that of the internist.

4. Do not be satisfied with the examination of the part of the body that the patient chooses to show you, but inspect the whole of the body, particularly in all doubtful cases. If you do not inspect the body you may miss the most characteristic patch, and your clue to diagnosis.

5. Do not exaggerate the importance of the presence or absence of itching in dermatologic diagnosis. Itching is a subjective symptom and varies greatly with the personality of a patient.

6. Do not forget that the original clinical picture is often disguised and concealed by secondary acute derma-

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titis from irritating local medication. In these cases give a soothing ointment and defer the final diagnosis until this secondary inflammation subsides and reveals the original condition in its primary state.

7. Do not call an eruption "eczema" in the absence of the following features: Irregular round or square-shaped lesions, ill-defined diffuse borders, marked tendency of individual lesions to coalesce into patches, equal involvement of the central and peripheral parts, spreading by continuity, itching, absence of ulceration and scarring.

8. Do not try to force under one diagnosis all the patient's skin lesions. Remember that quite often the patient shows two or three different types of skin lesions, merely coexistent but entirely independent from each other.

9. Do not venture a diagnosis of a scabby or crusted lesion until you clean it up and see its base; a dirty, harmless-looking crust may conceal a number of very serious conditions.

10. Do not expect every "ringworm" to look like a ring. In fact, only a small minority of them look so. Diagnosis of ringworm is made on sharply defined borders, circinate shape and scaly marginated borders showing an "epidermal collarette." Incidentally, itchy, eczematoid, scaly patches between the toes, in the groins and axillae are in the majority of cases caused by ringworm.

11. Do not waste energy on trying to differentiate between eczema and dermatitis. It is the consensus of opinion of dermatologists that eczema and dermatitis are perfectly identical conceptions and may be used as interchangeable terms.

12. Do not forget that syphilis may simulate any dermatosis. However, the following "specific" features, if present, single or combined, suggest and often clinch diagnosis: raw ham, dusky red color, serpiginous or kidney shape, deep induration or infiltration, absence of itching, comparatively rapid involution, tendency toward ulceration and formation of thin, soft, atrophic "wrinkled cigarette paper" scars.

13. Do not overlook scabies in your well to do patients.

14. Do not mistake, as is often done, harmless pityriasis rosea for a secondary syphilitide. Bathing trunk distribution, complete freedom of face, palms and soles from buff pinkish color, superficial scaling and activity at the lesion's edges, and the presence of "mother" patch will readily differentiate it from syphilis.

15. Do not ask the patient superfluous questions such as, "does it itch?" If it does you will see excoriations and scratch-marks.

16. Do not expect bulky "stuck on" crusts in every case of impetigo, i. e., streptoderma. It can be readily recognized by sharply defined borders, circinate shape, extremely superficial character of the lesions and, particularly, by a tendency to produce rapidly bursting bullae and serous exudate, leaving a moist, dark red velvety surface.

17. Do not fail to notice and examine insignificant-looking, brownish scabby or crusty patches on the face and hands of middle-aged people. Some of them may be potential or active incipient epitheliomata.

18. Do not mistake "insect bites" (so often observed in young children) appearing as large inflammatory papules, and do not call them hives or food rash. The presence of "stiletto," a small central opening, localization on the exposed surfaces and a peculiar triangular grouping readily identifies the nature of the condition.

19. Do not be influenced too much by Wassermann test in dermatologic diagnosis. Negative Wassermann occurs not uncommonly in the presence of active typical syphilitides. Positive - Wassermann means only that the patient had or has syphilis, but it does not necessarily mean that the present skin lesion is specific. A syphilitic may and does often contract other skin diseases.

20. Do not encourage the mistaken notion of laymen that most of the skin diseases are due to "blood poisons" and various systemic factors. You will be surprised to find what a large percentage (at least 30 per cent) of skin disorders in California are caused by local bacterial or mycotic infections.

ACUTE INTESTINAL OBSTRUCTION

REPORTING A CASE WITH RARE PATHOLOGICAL FINDINGS

By SAMUEL FLOERSHEIM

A widow, 62 years of age, very thin, always in good health, was suddenly attacked with symptoms of acute intestinal obstruction. Although the abdomen was quite thin and flaccid no definite tumor mass was outlined. Efforts to relieve the obstruction only served to increase the vomiting and abdominal distress. She refused to go to a hospital, to leave her home, or to have x-rays or other laboratory diagnostic aids employed. A surgeon was induced to attempt relief of the obstruction if possible or, failing in that, to do a colostomy under local anesthesia in the patient's home.

The scene was on the third floor of a tenement house and in the rear room. The kitchen was cleared, a large round table, with one center board removed, was used. With one nurse assistant, the patient was prepared as well as possible under the conditions and a local anesthetic was given, the surgeon and I proceeded to do an exploratory abdominal operation.

The descending colon was found moderately distended, while the sigmoid was collapsed but without signs of constipation, strangulation or gangrene. The upper pole of the sigmoid was encircled by two wide bands of fibrous tissue, each nearly two inches wide. From this point there was a sheet of tissue running across the abdomen to the right side, being attached to the cecum, then along the inner side of the ascending colon to the hepatic area, then across the abdomen following the transverse colon to the splenic region and downward following the descending colon to the points of constriction. This large area was a mass of countless cysts, which we interpreted as an extensive form of cystic degeneration of the greater omentum. There was some vomiting and nausea, which we attributed to the unrelieved obstruction and not to manipulation.

The two bands of constricting tissue were divided, the outer edges turned in and stitched for obvious reasons and the inner strips dissected from the sigmoid to the cystic mass. With traction on these bands we felt something within the abdomen give way. The surgeon apprehensive as to the damage done, fearing a tear into the intestine, began a careful search for damage, but found none; simply a mass of cysts were dislodged from the main mass. More traction brought through the abdominal opening a mass of golden cystic tissue the size of a cantaloup. Delving again into the abdomen, more cystic tissue were extracted, and finally blunt finger dissection exercised along the tract of the colon, when a large mass of cystic tissue was delivered. The cystic tissue while fresh and warm was of a golden yellow color. No fluids were used in the open abdomen. The parts were carefully mopped dry and the abdomen closed without provision for drainage. Primary union was obtained without the slightest evidences of inflammation, irritation or infection. The sizes of the cysts ranged from about a split pea to nearly twice the size of a baseball. No doubt there were very many minute and small cysts left in the abdomen. We worked one and one-half hours and were hampered by the family and relatives. The patient made an uninterrupted recovery, sat up in bed on the third day, was out about the room on the sixth, and three days thereafter did her daily labor as if nothing had happened. Three years later the patient was well. Inquiry made since my removal from New York to Los Angeles brought out the fact that the patient had died four years after the operation, and the cause of her death was given as heart disease.

A goodly portion of the mass of the cysts removed at the operation was sent to Dr. Emil Schwartz, pathologist, Woman's Hospital, New York City, who reported it to be an extremely rare form of pseudomucinous (golden yellow) cystic degeneration, of which, up to that time, November, 1918, there were but three cases on record. These were found discussed only in Von Bergman's system of surgery.

PANCREATIC CYST WITH DIABETES

By ARTHUR R. TIMME*

THE purpose of this paper is to place on record a case of pancreatic cyst presenting symptoms less commonly found in such cases.

Max Einhorn in March, 1925 (Am. Jour. Med. Sciences, Vol. CLXIX, p. 389), and G. L. McWhorter in October, 1925 (Arch. of Surg., Vol. XI, p. 618), have given extensive reviews of the literature on this subject, to which the reader is referred. Einhorn reports two cases of his own, and McWhorter gives an exhaustive analysis of nineteen cases belonging to members of the Chicago Surgical Society.

Opie in his book on Disease of the Pancreas (Lippincott, 1910), groups cysts of the pancreas into three classes—retention cysts, proliferation cysts, and pseudocysts. Retention cysts may be said to follow obstruction of the ducts, proliferation cysts are due to cystic degeneration of new growths, while pseudocysts arise "within the substance of the pancreas as a result of degenerative changes affecting the interstitial tissue of the gland" (Opie). This latter group includes those cases of hemorrhage into the gland from trauma, which result in cyst formation. It is this type which chiefly concerns us here. Such cases are not uncommon in the literature. Koerte (cited by Opie and others) found 28 per cent of a series of 117 pancreatic cysts presumably due to trauma, while Takayasu (cited by McWhorter) found the occurrence of trauma in 23 per cent of a series of 130 cysts. E. S. Judd (Minn. Med., Vol. IV, p. 75, February, 1921), however, records a history of trauma in only one out of forty-one cases.

The interval between the initial trauma and the clinical appearance of the cyst is variable—from one week (Lazarus, cited by Opie) to one year, as in the present case.

The largest cyst recorded is that of Rufus B. Hall (N. Y. Med. Jour., Vol. 93, p. 273, February 11, 1911). This cyst was drained and twenty-three pints were removed. N. Bozeman in December, 1881, at a meeting of the New York Pathological Society reported removal in toto of a cyst weighing twenty and one-half pounds. This, however, was not a traumatic case.

Pain is the most constant symptom noted, but was entirely absent in this case. Emaciation is another frequent symptom. Glycosuria, the most important

findings in the present case, is relatively infrequent; Oser (cited by Tice in his "System") found it in only nine out of 134 cases. Other symptoms are nausea and vomiting, jaundice, diarrhea or constipation, and rarely fever and chills.

Pathologically the walls of the cysts following trauma invariably consist of a thick fibrous tissue with round-cell infiltration, but no epithelial lining as was found in the present case. The liquid contents may vary in color, content and consistency—usually dark brown, thick and mucinous, occasionally containing the pancreatic ferments. The cyst most frequently arises from the tail of the organ.

Bozeman (cited above) first excised a cyst in 1881. Gussenbauer (cited by Opie) introduced marsupialization in 1882; this consists of drainage by sewing the cyst to the belly wall. Complete excision is rarely possible because of extensive adhesions. In such cases drainage is the operation of choice.

CASE REPORT

In February, 1926, a married woman of 44 was referred to me for a condition of pain and weakness of the legs of about six months' duration. This proved to be a well-marked neuritis with the usual signs of pain, paresthesias, sensitive skin, tender calves, diminished skin sensations, muscular weakness, and loss of reflexes. It was confined to the legs and was symmetrical. Although she had a marked enlargement of the abdomen she asked that this be disregarded, as she had become resigned to its presence during the last fifteen years.

In searching for the cause of the neuritis a urine with a specific gravity of 1040 and 3 per cent sugar was found.

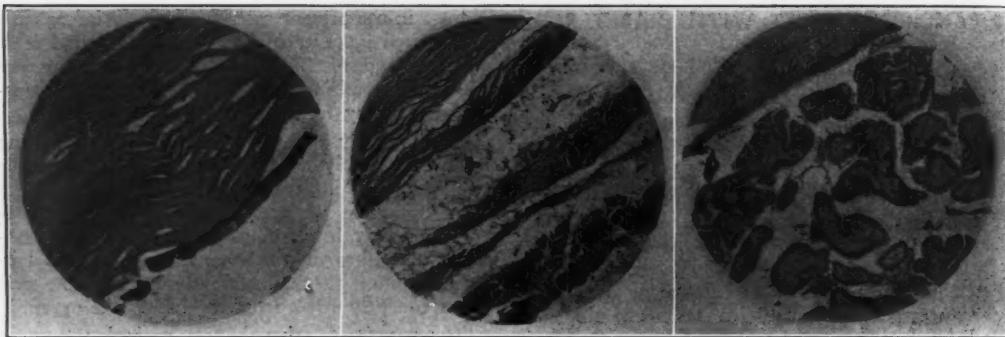
The following history was obtained:

Usual childhood diseases. Normal onset and course of menstruation. Never pregnant. Sixteen years previously she tripped over a low wire and landed squarely on the pit of the stomach on frozen ground, with the body arched backward, as she had been running fast. No undue discomfort followed. One year later, during an attack of "gripe," an orange-sized mass was discovered in the left upper abdomen. Operation was advised against because of suspected attachment to the spleen. Since then the mass has gradually enlarged until it occupies the entire abdomen. Six years ago she weighed 140 pounds, one year ago 118, now 87. One and one-half years ago severe pyorrhea began, for which she had all teeth except six molars removed. For the past three years she has been having occasional cramps in the legs, and during the last six months the present neuritic condition has become firmly established. For the past two years she has had increased thirst and polyuria. There have been no pain, digestive disturbances, or diarrhea.

Examination showed an emaciated female weighing 87½ pounds. Cranial nerves normal. Ragged tonsils. Heart rapid and weak. Lungs clear. Abdomen greatly enlarged and containing a tense, dull, fluctuating mass; the greater part lies well to the left of the midline. Uterus hard and freely movable; no adnexal involvement determinable; apparently no attachment of this mass to the ovary. Polyneuritis as described above. Blood count normal. Wassermann negative. Urine: 1040 sp. g.; alb. 0; sugar 3 per cent by Purdy; acetone +; diacetic +. Non-protein nitrogen 31.5. Uric acid 3.2. Creatinin 1.2. Blood sugar 320.

In view of the glycosuria and emaciation a pancreatic cyst was suspected and operation advised. This was refused. She was then placed on a diet and given insulin. The glycosuria and hyperglycemia rapidly cleared up and she gained seven pounds in weight. The neuritis was greatly relieved. After several recurrences of the neuritis, however, she finally consented to operation, which was performed by Dr. Albert C. Germann, July 24, 1926. A large pancreatic cyst was found, pushing through the

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Papilloma from inner wall of cyst, also revealing the single layer of columnar epithelium lining cyst and part of cyst wall.

Pancreatic tissue, fat, and the wall of the cyst.

Inner lining of cyst wall consisting of single columnar layer of epithelium of goblet cell type.

gastrocolic omentum, the stomach upward and colon downward. Transomental delivery. Body of pancreas was adherent to the tumor and a pedicle was attached to about the center of the body, nearer head than tail. There was aberrant pancreatic tissue on the surface of the tumor. Impression of the full length of pancreas on the surface of the mass.

Gross Description—Measurements 19 by 17 by 14 cm. Weight 2700 gms. Two thousand two hundred cc. chocolate-colored liquid of rather thick consistency and somewhat mucinous character. No odor. Walls $\frac{1}{2}$ to 1 cm. in thickness, with some areas more fibrous and dense than others. Occasionally small calcified plaque, the largest of which measures $1\frac{1}{2}$ cm. in diameter. Outer surface shows a linear zone of attachment measuring 19 by 3 cm. in size and along which apparently recent adhesions have been broken up and a few characteristic fragments of pancreatic tissue are still attached. The inner surface of the cyst reveals roughened areas where fibrinous and mucinous material appears to be attached to the wall. Some areas appear to be discolored, varying from yellow to brown. One area shows a papillomatous type of growth, $2\frac{1}{2}$ cm. in diameter and extending 1 cm. into the lumen—very soft friable mass.

Microscopic—Wall consists of fibrous tissue with some round-cell infiltration. The inner lining reveals some hemorrhage superficially and consists of columnar epithelium with cells of the mucus-secreting type in some areas. Section through the papillomatous mass reveals papillary arrangement with columnar epithelial lining with a number of active mitotic figures observed. There is no definite tendency for outward infiltration of the wall with this growth, but it shows some malignant characteristics.

Diagnosis—Pancreatic cyst. Papilloma of wall of cyst with some malignant characteristics.

The patient made an uneventful recovery. Her glyco-

suria (2½ per cent by Purdy) and hyperglycemia (303 mg.) soon returned, as well as her neuritic pains. She was again placed on a weighed diet with insulin, with rapid relief of the symptoms.

Credit is due Dr. Albert C. Germann for assistance in working up the case and for the operation, and Dr. H. E. Butka for the pathological preparations and studies.

HYMENOLEPIS DIMINUTA

REPORT OF A CASE

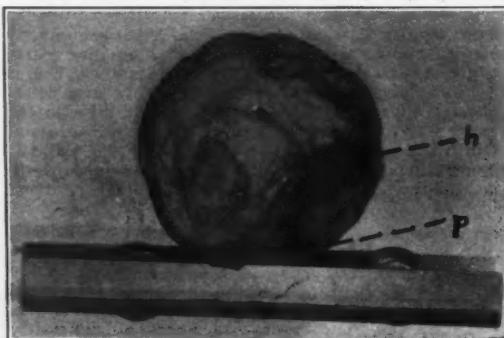
By F. F. GUNDRUM AND J. R. SNYDER *

INFESTATION with the rat tapeworm, *hymenolepis diminuta*, is still sufficiently uncommon to make it perhaps of interest to report the following case.

Boy, F. V., age 15 months, always healthy. Present illness began with symptoms of enteritis. The mother, a trained nurse, noticed the presence of worms and brought a specimen to the office with her. Therein were found: "Besides several small pieces, three complete parasites. Their heads were very small, white, globular, and showed four round suckers near the apex. The rostellum was small and indistinct and showed no hooklets. The longest

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Pancreatic cyst in the gross. (p) site of attachment of pedicle. (h) impression of head of pancreas.

worm measured 20 cm.; the shortest 10 cm. The segments, in breadth about 1 millimeter, were broader than long, except near the caudal end. The neck segments were not visible to the unaided eye. The number of segments in the longest worm was about 700. The neck was rather long and only slightly narrower than the head. The ova were usually slightly oval, but some appeared quite round. They were slightly yellowish, double-walled with a clear space between the walls. Four to six hooklets were seen spread out fan-shape in the central, granular portion of the ovum. There were slight protuberances of the inner wall in line with the long axis. The caudal segments of the parasites were almost completely filled with ova." A specimen was sent Professor Kofoid, who confirmed the diagnosis. After the administration of male fern five more worms were passed. The enteritis subsided and the patient has continued in good health. The premises where the patient lives are rat free. The father of the patient is employed in a granary, where rats are plentiful and where meal moths are apt at times to be plentiful. The mother had noticed that the little boy frequently found and ate grain kernels filched from the cuff of the father's trousers when he returned from work. It seems likely that the mode of infection was through moths, known to be carriers of the larvae of this tapeworm.

Diagnostic School Clinic in Public Schools as Factor in Conservation of Hearing.—During the past year, acting in the capacity of consulting otologist to the Minneapolis public schools, Horace Newhart, Minneapolis (*Journal A. M. A.*), has gained some experience in supervising the preliminary work of establishing a public school ear clinic in Minneapolis. He is convinced that the diagnostic ear clinic in the public schools offers the greatest possibilities in successfully preventing unnecessary deafness. The details of its organization and procedure must vary with local conditions regarding population and existing facilities, but the general principles must be much the same wherever the work is undertaken. The fundamental step in any community must be a test of the acuity of hearing of all children enrolled. This should be made on admission and be repeated at least once in two years, and preferably every year. Many pupils will require tests at shorter intervals, especially after absences from school occasioned by sickness likely to affect the ears. All pupils who can write to dictation are tested in groups of forty by means of the 4-A phonograph audiometer. Those under 8 years of age, the blind, and those severely deafened are tested with the 2-A audiometer. Children found by these tests to have any material hearing loss are reported to the principal of the school. She in turn, or her school nurse, notifies the parents of the condition of the child's hearing, requesting that the child be examined by the family physician or otologist. When this is not done or is impossible for financial reasons, the nurse, with the parents' consent, takes the child to the school diagnostic ear clinic. This in Minneapolis has been given space in a thoroughly modern hospital and clinical building under the management of the general hospital, but receiving as patients only school children. In this building are also housed clinics, wards, and school rooms for the undernourished, the tuberculous, and the eye, skin, heart, orthopedic and child guidance clinics. In the diagnostic ear clinic a careful ear examination is made of all children whose hearing test falls below a certain predetermined grade. The results of this examination are transmitted by the school nurse to the parents, together with the recommendation that the child requiring treatment or operation be taken to the family physician, who may treat the case himself if he is competent, or refer it to an otologist or to the otologic department of one of the existing clinics. The great objective, however, is to secure early diagnosis of existing bodily conditions causing hearing loss, and to correct such conditions in the speediest and most effective manner. To conserve most effectively the hearing of the greatest number of the population, the idea of regular systematic examinations of the ear must be extended to all educational institutions, the private as well as those supported by the public. Such examinations can be advantageously provided by all large employers of labor. This should be especially true in the operating department of railroads. The peculiar

advantages of these examinations must also soon become apparent to insurance companies as affecting all applicants for life, health or accident policies. With sufficient cooperation between the medical profession, educators and all persons interested in human welfare, a speedy awakening of sentiment may be expected which will make it the rule that every citizen will demand a thorough periodic examination of his hearing apparatus, not with the expectation always of having restored hearing loss already sustained, but to preserve his sense of hearing in as nearly perfect a condition as possible.

Carcinoma of Stomach.—The present status of diagnosis and prognosis of carcinoma of the stomach is discussed by George B. Eusterman and Winfred H. Bueermann, Rochester, Minn. (*Journal A. M. A.*). They believe that the pessimistic attitude of the profession toward gastric carcinoma is, in a large measure, justified, because of unnecessary delay in diagnosis, invariable high degree of malignancy, and because, in certain types, the symptoms may be protean or the disease far advanced before it can be recognized by present available methods of diagnosis. Moreover, its primary situation may be such as to make its removal impossible, or the prognosis following radical extirpation may be dubious, even if the diagnosis has been made relatively early. Statistical proof of the insidious nature of the disease is readily available. The causes of delay in the earlier diagnosis and treatment are due to several factors: procrastination, the incomplete examination, failure on the part of the laity as well as of the physician to realize the gravity of dyspepsia having its onset in middle or late adult life, obsolete teaching and textbooks. There may be few symptoms or signs in certain of the cases, or the lesion may be well advanced before tangible symptoms occur. The symptoms are largely dependent on the site, extent, and the degree of motor impairment. Diagnostic teamwork makes earlier diagnosis and better prognosis possible. One in every four patients has an operable lesion. Carcinomatous ulcer, usually simulating benign ulcer, is more common than is generally supposed. Every gastric ulcer is potentially a carcinoma. Eight per cent of carcinomatous ulcers occur in patients under 40 years of age. Achlorhydria is present in 4.5 per cent of chronic benign gastric ulcers in patients past middle life. The necessity for diagnostic observations and laboratory examinations, or exploratory operations, is in inverse ratio to the skill of the roentgenologist. Roentgenologic criteria of inoperability are more accurate than those of operability. Intrinsic gastric lesions that simulate carcinoma are gastric syphilis, lymphosarcoma and benign tumor. Extrinsic lesions are carcinoma of the pancreas, carcinoma of the duodenum, and advanced disease of the gall bladder, or carcinoma of that organ. Of various constitutional diseases that may have symptoms like those of carcinoma, pernicious anemia is the most important. Important advances have been made in the preoperative preparation of patients and in anesthesia. Exclusive of direct extension or metastasis to other organs or tissues, the most unfavorable index to prognosis in general is perigastric lymphatic involvement. Fifty-two and five-tenths per cent of patients without lymphatic involvement were well and free from recurrence three years after operation. In the group with lymphatic involvement the percentage was reduced to 18.

The fight against illness is not physical only, but has a real moral quality as well; the reaction of a man against misfortune, which is something like the reaction of a nation at war. The religion the sick man needs is one of fortitude, self-denial, earnestness, and this can be coddled out of him by slush, and sentimentality and self-pity, which for him are the world, the flesh and the devil. To lose health is bad; but to lose moral stamina is worse. For a man to get out of hospital with legs and lungs healed, and body patched up, but moral backbone flimsy for life, is not a triumph but a tragedy.—*Canad. M. A. J.*

Now that the New York legislature is going to investigate Narcosan we may soon know all about its virtues!

- BEDSIDE MEDICINE FOR BEDSIDE DOCTORS -

An open forum for brief discussions of the workday problems of the bedside doctor. Suggestions for subjects and discussants invited. Useful extracts from letters will be published.

DIETS MOST USEFUL IN THE TREATMENT OF VASCULAR HYPERTENSION

Lovell Langstroth*—Cases of hypertension usually fall into one of three groups: (1) hypertension without symptoms referable to it; (2) hypertension with such symptoms as headache, palpitation, throbbing of the vessels, dizziness, nervousness, indigestion, etc.; and (3) hypertension with nephritis. The dietetic treatment of the disease depends on the group into which the case falls.

In Group I, cases without symptoms referable to the circulatory condition, the hypertension is often found during examination for some other ailment. The patient is often moderately obese. His hypertension cannot be cured, but the progress of the associated degenerative changes can frequently be checked and his obesity reduced. I would give him the following diet:

Breakfast—Fresh fruit or fruit juice (citrus fruit is ideal), two eggs, coffee made largely of hot milk without cream or sugar, one slice of whole wheat bread and a small pat of butter.

Luncheon—A large salad of lettuce to which may be added: tomatoes, chopped celery or small onions, and a small portion of dressing; a large portion of fresh cooked green vegetables, a glass or two of milk, fresh fruit, cheese or nuts.

Dinner—Same as lunch with addition of meat, fish, or chicken.

Salt need not be restricted unless used to excess. The list may be supplemented with more milk, fruit, or a baked potato or two, depending on the physical activity. Exercise is desirable, but should be begun cautiously and increased gradually. In Group II, hypertension with symptoms, the patient is of the same type, but shows more advanced degenerative changes. He may usually be relieved of his symptoms. I would attempt to reduce his obesity and

relieve the circulatory burden with the following diet:

Breakfast—Fresh fruit or fruit juice, two eggs, a glass of milk.

Luncheon—Salad, fresh cooked green vegetables, fresh fruit, a glass of milk, a little cottage cheese, a few nuts, raisins, or dried figs.

Dinner—Same as luncheon with addition of a moderate helping of meat, fish, or chicken.

All food should be prepared absolutely salt-free. Every two weeks the twenty-four-hour urine should be examined quantitatively for chlorides. When the chloride figured as Na Cl reaches 1.5 grams, one-half a level teaspoon of salt may be put in a shaker each morning and added to the salt-free food during the day. Only mild exercise is permitted until the patient's reaction to it is ascertained.

In Group III, hypertension with nephritis, obesity is less constant; degenerative changes are sometimes marked and the color is often a pasty yellow. The circulatory symptoms may often be relieved. There need be no restriction of protein until the phthalein excretion is 30 per cent or less in two hours. At this point the protein intake should be reduced below 1 gram per kilo of body weight, the amount to depend on the degree of impairment. I would give a roughly quantitative diet made up to a specified number of grams of protein, fat and with a phthalein of 30 per cent this would perhaps be: protein 40, fat 100, CHO 100.

The protein is best made up of milk and eggs. Bread and sugar are allowed to make up the carbohydrate to 100 grams after giving the greatest amount of fresh fruit, vegetables and milk that can be worked in. All the food should be prepared salt-free. When the output reaches 1.5 grams a day a gram or two of salt may be added to the salt-free food. Exercise should be restricted to massage, a few resistive exercises and short walks.

George A. Gray*—The differential diagnosis between vascular hypertension and chronic nephritis

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* George Alexander Gray (502 Twohy Building, San Jose, California). M. D. Rush Medical College, 1917; S. B. University of Chicago, 1915. Graduate study: Jefferson Medical School and Rockefeller Institute, 1917; U. S. Naval Medical School, 1917. Previous honors: Battalion Surgeon, Third Battalion, Eleventh Regiment, U. S. Marine Corps, A. E. F., France; Lieutenant Medical Corps, U. S. Navy, 1917-20. Present hospital connections: Santa Clara County Hospital; San Jose Hospital; O'Connor Sanitarium, San Jose, California. Scientific organizations: Santa Clara County Medical Society, California Medical Association, American Medical Association. Practice limited to Diagnosis and Internal Medicine since 1920. Publications: "Diphtheria Carriers and Their Treatment with Mercurochrome," *Jour. of Infectious Diseases*, April, 1921; "Mercurochrome in the Treatment of Intestinal Protozoan Infections"—First report ready for publication. Preliminary report read at the fifty-third annual session of C. M. A., Los Angeles, May, 1924; "A Case of Erythema Nodosum," *U. S. Naval Medical Bulletin*, July, 1918; "Tuberculosis in the Early Diagnosis of Tuberculosis," *U. S. Naval Medical Bulletin*, January, 1921; "Diphtheria at Mare Island, California, in 1920," *U. S. Naval Medical Bulletin*, January, 1921; "Agglutination of Human Erythrocytes by Sera," *U. S. Naval Medical Bulletin*, January, 1921; "The Laboratory," *U. S. Naval Medical Bulletin*, January, 1921; "A Death from Nitric Acid Poisoning," *U. S. Naval Medical Bulletin*, January, 1921.

may frequently be made by a functional test. Urinalysis in both cases closely resemble each other. The striking diagnostic difference, however, is that in vascular hypertension the maximum specific gravity is ordinarily much higher than that in nephritis. The vascular hypertension kidney, therefore, maintains its ability to concentrate as compared to the inability of a nephritic kidney. In vascular hypertension the specific gravity of the urine shows no loss in power of concentration, as is true in the case of chronic nephritis; while the presence or absence of albumin and casts is about the same in both diseases. The functional tests, therefore, show but little renal impairment in vascular hypertension. Bearing this fact in mind, then, technically we should not have to consider the ordinary food proteins in the dietary management of this type of hypertension. There are, however, two schools of thought in the treatment of vascular hypertension. First, the more established one which treats every type of hypertension as though it were merely one of various stages of hypertension that are gradations between so-called essential hypertension and that of hypertension with nephritis. This school prefers the salt-free, lacto-vegetarian régime. It considers any food that puts an extra strain on the kidneys or the vascular system in the elimination of their by-products of digestion as of almost as great importance as the specific etiological factor. The other school of thought considers that there is no definite, or very little, evidence that protein food plays an important influence on blood pressure. They base their beliefs on various experiments where protein diets of varying degrees were not able to alter the blood pressure, nonprotein nitrogen or blood ureas materially. They consider then that it is not necessary to alter the diet materially insofar as it plays a decided influence on hypertension.

Personally, however, considering that fully 50 per cent of males die of cardiovascular renal disease, I cannot help but believe that one type of hypertension may develop into the more serious variety if the strain of digestion, focal infection and environment are not reduced to a minimum. Just what the inter-relationship between these various gradations of hypertension is has not been fully established in my own mind as yet. For this reason, therefore, I believe in making the load as light as possible upon the vascular renal system, and in no way putting any extra strain upon any organ that might be damaged, knowing that it is far easier to prevent than it is to cure. In most of my hypertension cases I usually start with a low protein salt-free diet, depending upon the clinical picture and the individual's reaction to the dietary restrictions. In this way the possible toxic effects of the proteins may be overcome by restricting their intake. Needless to say, however, the treatment of hypertension is based primarily upon its etiological factors, while the regulation of diet in this condition and the rigidity of its enforcement has to meet many indications which vary in individual cases. First we must take into consideration the type and grade of hypertension and the severity of symptoms present; the personal

activities of the individual, his age, business activities, environment, and how the sameness of a routine diet will effect him individually. If too severe restrictions are going to exert too much of a hardship upon him and cause him to worry unduly concerning his health, I believe that more harm can be done by such a "too rigid dietary régime" than if no attention were paid to it.

We know, too, that many of the toxic effects of the proteins must be considered from an intestinal putrefactive standpoint. We must also remember that intestinal intoxication results from abdominal distention, and this in turn may be produced by excessive intestinal fermentation as well as putrefaction. These conditions, however, can in all ordinary cases readily be controlled by altering the intestinal flora. Suitable diets in altering the intestinal flora have in many personal cases reacted remarkably well in reducing hypertension. The diagnosis and the check on treatment in cases with this condition can readily be made by testing the reaction of the stool to litmus. A putrefactive stool ordinarily can readily be changed by the proper doses of the so-called lactic acid bacilli, with a restriction of the proteins and an increase in the carbohydrates ingested. Fermentation may be overcome by decreasing the carbohydrates, and increasing the proteins. The coarser fibrous meats, such as beef, favor putrefactive conditions because of their greater resistance to the digestive juices. This latter point is important from the fact that if one would thoroughly masticate the protein food there would be less putrefaction resulting from the improper digesting of them and in turn the proper metabolizing of these foods would lessen the strain on the vascular renal system. One may in special instances then consider that an individual who will thoroughly masticate his protein foods may be allowed proteins in his diet in normal amounts even though he is a case of vascular hypertension. Finally obesity must also be considered when present. In this condition a subcaloric diet is resorted to. We know from actual experience that a subcaloric-mixed diet is beneficial not only in reducing obesity, but in lowering hypertension. We also must remember that a subcaloric diet is very apt to produce a secondary anemia, and the patient should be watched very closely that his hemoglobin count does not drop below 85 per cent on a prolonged diet. And finally, throughout any diet one should always consider the presence of a well-balanced vitamin content.

Following is a brief outline or schedule for an ordinary day that I usually resort to as a matter of routine. It must be varied, of course, for the individual case:

Breakfast—Stewed and fresh fruits, 100 gms.; cereal, salt-free, 100 gms.; bread, salt-free, 30 gms.; milk, one glass, 100 cc.; butter, salt-free, 20 gms.; sugar, 20 gms.

Dinner—Bread, salt-free; butter, salt-free; milk, sweet or buttermilk as indicated; rice, macaroni, or baked potato; 5 or ten per cent vegetables; salads, fruit or vegetable; olive oil and vinegar dressing.

Supper—Bread, salt-free; butter, salt-free; olive oil, 15 cc.; milk, sweet or buttermilk; stewed or fresh fruits; group of 5 or 10 per cent vegetables.

John R. Frank*—In hypertension one's first consideration is to look for the cause; for, like headache, it is but a symptom of some other abnormal condition. If the fundamental cause is located and removed, then possibly no strictly regulated diet will be necessary, but in many cases a proper diet and elimination is shown to be the main factor in reducing the blood pressure. Some of the possible causes are, to merely mention them, hyperthyroidism, overindulgence in athletics, too strenuous work, constant worry and fear as in nervous conditions, the chronic infectious diseases as syphilis, focal infections, diseased kidneys, and, most common of all, dietary errors—overeating and the ingestion of relatively too large amounts of protein foods, which overwork the kidneys, weaken and disease them. Vital statistics show that more people are now dying of diseases and disorders of the metabolism than die of infectious diseases.

Some of the main facts and principles I have found useful in prescribing diets are, as follows: a healthy active person of seventy kilos weight requires daily:

	Average Caloric Value Per Gm.	Per Cent
Protein, 120 Gms.....	4	18
Carbohydrate, 500 Gms.....	4	75
Fat, 50 Gms.....	9	7

Multiplying the caloric value by the number of grams we see that a normal person requires about 3000 calories daily.

My dietary treatment of hypertension, in brief, consists of a limitation of the amount of food intake to about two-thirds, or to about 2000 calories, and the protein content is restricted to about one-half. To get a sufficiency of amount for filling effect I rely on the vegetables containing about 5 per cent carbohydrates. In severe cases of nephritis all protein is withheld for a few days. There is often no better diet in hypertension complicated by nephritis than a pure milk diet. The protein diet must be so arranged that the various protein foods supplement each other, furnishing the necessary aminoacids for the body's needs. The proteins of meats are almost ideal, but meats should be restricted. I give boiled meats but two or three times a week, using instead the cereal and leguminous proteins supplemented with milk and eggs. Eggs, like meat, are almost a complete protein food. A diet will become monotonous in proportion as it is an incomplete food. Thus of beans, fish, and oats we easily tire; but of milk, nature's complete food, we practically never tire. If there is edema of cardiac or nephritic origin no salt is added to the diet for a time, as salt causes and promotes edema of both cardiac and renal insufficiency.

Besides the above three classes of foods, the body requires at all times minerals and the four essential unorganized vitamins, A and D, fat soluble, and

C and D, water soluble. We get the former principally in butter, egg-yoke, and cod liver oil; and the latter in fresh fruits, vegetables and whole grain cereals. The minerals that are often lacking in the diet, but which the body requires daily, are: calcium, 1.5 grams; iron, 0.1 grams; and iodin in yet smaller amounts. Iodin may be furnished in iodized salt. The body requires 2 grams of NaCl, but we usually take 10. It has been shown by animal experimentation that practically all inorganic salts may be given orally and utilized by the body. There are only two foods that contain calcium in sufficient amounts to maintain the proper alkalinity of the blood and to protect the body from such diseases as tuberculosis. They are milk and the leafy vegetables.

Henry H. Lissner*—The diet most useful in the treatment of vascular hypertension is usually based upon the type of hypertension being dealt with. In bedside work etiology should be one of the principal factors in the determination of the type of diet to be prescribed.

Generally speaking, the usual division of hypertension with regard to type plays but an unimportant rôle in the selection of diet. Considering that hypertension without symptoms, or hypertension with symptoms, or hypertension with evidence of nephritis, are gradations of one and the same thing, it has always been my custom to look upon them with the same degree of seriousness from the standpoint of diet restrictions at the time of discovery of the hypertension, rather than to wait for the more serious symptoms to develop before limiting the protein intake. It is in this type of case discovered early that the greatest indication and benefit from preventive medicine finds its most logical outlet. Naturally the protein intake of a diet should be limited where the hypertension is due to kidney damage as evidenced in the urine, and in those individuals who have a low phthalein output; or again the protein intake should vary in individuals who have an increase in the blood nonprotein nitrogen,

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* John R. Frank (1243 Sixteenth Street, San Pedro, California). M. D. Indiana University, 1917; A. B. 1919. Graduate study: U. S. Naval Hospital, Annapolis, Maryland, 1917-18; Boston Psychopathic Hospital, 1920-21; New Jersey State Hospital, 1921-22; Neurological Institute, New York, 1922-23 (ten months). Previous honors: U. S. Navy, 1917-20. Present hospital connections: San Pedro General Hospital. Scientific organizations: Los Angeles Medical Association, California Medical Association, American Medical Association. Practice: General.

a high uric acid or other evidences of nitrogen retention.

For bedside work the two most practical indications for the regulation of the diet are the phthalein output, and the establishment of the constant specific gravity of the urine. The two most important clinical signs for its regulation are: loss of weight and progressive anemia.

In view of the above discussion it has been my practice to be rather rigid and to restrict all diets for hypertension of whatever type to as low an intake as possible of protein even to the extent of being protein-free. Look to the diet, on the first hand, to maintain the proper weight balance and prevent the overproduction of fat; and, on the other hand, proper blood balance as far as hemoglobin and the blood chemistry is concerned.

The specific diet should be worked out for each individual according to the different indications found upon clinical and laboratory examination, and the food for the individual should be drawn from the vegetables, cereals, fruits, and fruit juices, butter, buttermilk, cream cheese, and other foods of similar chemical composition. A very complete list of foods, analyzed according to their protein and carbohydrate and fat values, is to be found in Fitche's Dietotherapy, Vol I, and such a list should be consulted for the purpose of obtaining as great a variety of foods which the hypertension patient may have in order to relieve the terrible monotony which is the usual mental accompaniment of restrictive diets.

Under this régime of observation and individual outline I have seen the greatest benefit accrue rather than by following the usually prescribed diet from the textbook standpoint.

Hilmar O. Koefod *—Diet, though of distinct value, is, in my opinion, of less value in handling hypertension than well-regulated rest, physical and mental.

Inasmuch as the pathological changes causing or accompanying hypertension are progressive, it has been my plan after determining that a patient has a blood pressure that persistently stays above normal over a period of time without obvious removable cause, to put him on a strict dietary régime and keep him on it. This is always done in conjunction with a régime regulating physical and often mental activities. In the majority of patients whether or not renal involvement can be demonstrated, meat, fish, clear soups and condiments, alcohol and often eggs are cut out of the diet; salt is restricted to the amount used in cooking unless edema is present when it is removed as far as possible. Milk is used to furnish the bulk of the protein requirement, which means that it is taken with each meal besides other milk products as junket, cottage and other

forms of cheese, ice cream, etc. The remainder of the diet is made up of cereals, sugar, cream, creamed soups without stock, bread, butter (preferably unsalted), vegetables, fruits (fresh and cooked), fruit juices, tapioca, macaroni, and rice.

In a good many cases I have used Sansum's basic diet, which is much as above except that all wheat products, oatmeal, rice, and some of the fruits and vegetables, as cranberries and prunes are omitted. The bread used in this diet is made from soy bean flour. The diet is a satisfactory one in many ways. While the acid end products may not be an important factor in causing or aggravating hypertension, the large amount of vegetables, fruit and fruit juices given, make it refreshing and excellent for constipation, which is often present. The daily laxatives, so often given to increase elimination, I think are frequently a source of irritation of the intestinal tract with accompanying gas and abdominal discomfort which tend to defeat our purpose. This habit I have often stopped in spite of fear and trembling of the patient, regulating the constipation by diet even when the blood pressure was very high. I have not observed that this has had any untoward effect on the blood pressure readings, in fact it is frequently of distinct benefit.

The basic diet too, because of the elimination of wheat products, can easily be used for reducing cases of hypertension with obesity.

Fluids have been limited to 1500 cc. except in cases with edema, which are put on a Karel diet.

F. F. Gundrum *—From a clinical standpoint hypertension cases may conveniently be divided into:

1. Those who have definite renal insufficiency as evidenced by one or more of the renal function tests.
2. Those whose kidneys are sufficient.

In the first group dietary management consists in so regulating the protein intake as to minimize the load upon the damaged kidneys and at the same time to prevent, as far as may be, the development of anemia.

In the second group, particularly where patients are overweight, the chief object to be accomplished is the reduction of the total intake of food. Minute prescription of the quantities of the different food-stuffs is of little value compared to the labor involved. The chief satisfactory results I have been able to get by dieting patients with high blood pressure have been in the group of overweight indi-

* **Frederick F. Gundrum** (400 Capital National Bank Building, Sacramento, California). M. D. Johns Hopkins, 1908; A. B. Stanford, 1903. Graduate study: Intern Johns Hopkins, 1908-09; resident St. Francis Hospital, Pittsburgh, Pa.; instructor anatomy, University of Pittsburgh, 1909-10; visiting physician, Sacramento Hospital, 1910-19. Previous honors: Chairman Medical Advisory Board No. 7 during war. Present hospital connections: Visiting staff, Sutter Hospital; consultant, Sacramento (County) Hospital. Scientific organizations: Sacramento County Medical Society (past secretary and president), C. M. A. (chairman Medical Section, 1923), Fellow A. M. A., Calif. Acad. of Med., Royal Inst. Pub. Health (London), Am. Pub. Health Assn., A. A. A. S., San Francisco Acad. of Science, A. C. P. Present appointments: Vice-President California State Board of Health, 1915 to date. Practice limited to Medicine since 1910. Publications: "Acute Poliomyelitis in California," J. A. M. A., January 27, 1912; "Use of Sera in Med. Hemorrhage," California State J. Med., October, 1913; "Skin Test in Typhoid," California State J. Med., February, 1915; "Intestinal Infection in Sacramento Valley," California State J. Med., May, 1917; "Rat-Bite Fever," California State J. Med., January, 1918; "Triple Empyema," Ann. Med., November, 1920, etc.

* **Hilmar O. Koefod** (1421 State Street, Santa Barbara, California). M. D. Harvard, 1916; B. S. Beloit College, 1911; Traveling Fellowship (Harvard), 1916. Graduate study: Intern Peter Bent Brigham Hospital, 1917-18; diseases of the heart under Sir James McKenzie; Diabetes Memorial Laboratory and Clinic, Santa Barbara, 1918-19; assistant Medicine, University of California, 1919-20. Hospital connections: Member staff Cottage Hospital and St. Francis Hospital, Santa Barbara. Scientific organizations: Santa Barbara County Medical Society, C. M. A., A. M. A., Clinical and Pathological Society. Practice limited to Medicine.

viduals without kidney damage. Here the blood pressure curve often subsides, quite notably, parallel to the weight curve.

C. H. Denman*—The value of diet in vascular hypertension as in any other abnormal physical condition is primarily a matter of individualization. That which would benefit Peter might injure Paul. Hence each case of hypertension must be considered by itself and the diet determined according to the etiological factors and individual characteristics.

Is it not a fact that persons with high tension are more frequent among the intemperate? Intemperance here means overindulgence in high protein foods, rapid and irregular eating, slothfulness of body, and the use of liquors other than pure water. Alcoholic indulgence even in moderate degree and the excessive use of tobacco are, in my opinion, contributing factors in many instances. On the other hand excessive dietary restrictions lower blood pressure mainly by starving the patient and weakening the entire muscular system. I would give as the golden rules for diet in vascular hypertension the following:

1. Select that diet best adapted to overcoming the cause of the hypertension.
2. In most persons such diet will be a nourishing mixed one free from excesses in any direction.
3. Have the food properly prepared with but little salt or seasoning.
4. Eat slowly at regular hours.
5. Total abstinence from alcoholic beverages and from excessive smoking.
6. Drink an abundance of pure water; at least 1500 cc. in twenty-four hours.
7. Coffee, tea and soft drinks should be limited according to their effects on the digestive and nervous system.

In advanced cases of nephritis, overweight, or heart disease patients, an exclusive milk diet such as that recommended by Karells may be advisable. In other individuals a strictly salt-free diet may reduce blood pressure, but this lowering must be watched, for in most patients there is a point below which disagreeable symptoms result.

For a salt-free diet instructions to the patient are: All vegetables should be soaked in a first water, this drawn off and the vegetables boiled in a second water (this removes the natural salts). All meats are similarly treated, boiled first, and then prepared in any form desired. Unsalted butter or olive oil may be used in cooking meats; garlic, onions, mustard may be added to help cover the flat taste. Any fresh-water fish boiled or fried may be taken, but avoid salt-water fish. No preserved meats, smoked meats, canned fish, sardines, ham, bacon or sau-

* C. H. Denman (2428 Bancroft Way, Berkeley). M. D. Princeton, 1891, Hahnemann College, 1893; M. A. Princeton, 1893. Graduate study: Children's Homeopathic Hospital, Philadelphia, 1893-94; Philadelphia Polyclinic, 1900. Previous honors: Medical Missionary Service in Siam, 1894-1907; surgeon to Siamese Gendarmerie, 1904-06. Scientific organizations: Alameda County Medical Society, C. M. A., A. M. A., American Institute of Homeopathy, California State Homeopathic Medical Society, Pacific Physiotherapy Association, president Berkeley Board of Education. Practice limited to Medicine since 1924. Publications: A few magazine articles.

sage. No pies, pastry, hot-cakes, or eggs in any form. Use unsalted butter and salt-free bread if possible. Home-made unsalted bread several days old is the best.

Preserved or fresh fruit is allowed as follows: Pineapple, strawberries, apricots, plums, prunes, peaches, and apples, named in order of preference. Of the grain foods barley is preferred. Duck and veal may be eaten without special preparation. Good salt-free bread is obtainable in most urban communities. Water crackers may be eaten freely. No milk is allowed the patient, but cream, plain or diluted with water, may be used. Pastry cream with strawberries or pineapple make a pleasant dessert. Cottage cheese made without salt is good. The entire liquid intake should not exceed two pints in the twenty-four hours.

W. W. Crawford*—Ophüls suggests that hypertension is the symptom of an intoxication the nature of which we do not quite understand. There can be hypertension without any explanation whatever, but there is a higher percentage of high blood pressure based on arterial disease than arterial disease based on high blood pressure.

I believe great benefit may be gained in properly selected cases of hypertension by sharp limitation of the intake of sodium chloride; it certainly is of value in general arteriosclerosis. In general, writers on this subject agree on limitation of salt and protein in the treatment of edema, although there is some disagreement regarding the diet in vascular hypertension. However, lowering of blood pressure is the rule in the majority of patients so handled.

In my opinion, diets most useful and practical in the treatment of vascular hypertension depend a great deal on the faithfulness of the patient as well as the efficiency of the treatment. Bearing this in mind it is imperative, as far as possible, to make out diet lists attractive and palatable, as the appearance and odor of certain foods may defeat its own purpose.

For this reason it would be very difficult to create better diets for this disease than those presented by Doctor Langstroth in his paper on "Diets Most Useful in the Treatment of Vascular Hypertension"; also the classical diet by Sansum of Santa Barbara in 1923 and published by him in the Journal of the A. M. A., both of them being invaluable to bedside physicians.

"I am convinced that we have gone about far enough in the direction of free treatment. We should be careful how we give to any citizens, for any reasons, under any circumstances, blank checks by which they may draw upon the resources of the community. The primary responsibility for illness and the costs of illness should lie upon the individual. For this there are many reasons. Sickness is as often a fault as poverty is. If every man who has lost his health by carelessness or slackness or shiftlessness is to be a privileged public charge as long as he wants to be, why not the man who has carelessly or shiftlessly lost his money.—*Canad. M. A. J.*

The most astonishing thing about evolution is the long way it has yet to go.—Publishers' Syndicate.

* William W. Crawford (400 Electric Building, San Diego). M. D. University of Colorado, 1911. Scientific organizations: San Diego County Medical Society, C. M. A., A. M. A. Practice: General.

EDITORIALS

IN THE LEGISLATIVE HOPPER

The present session of the California Legislature has before it the usual number of bills purporting to promote the prevention and cure of diseases.

Some of these laws have been prepared after careful study by those whose business it is to serve the causes of legitimate medicine and health, while others are designed to advance the welfare of selfish interests. There are the usual "jokers" hidden away in otherwise harmless-looking bills and there doubtless will be others—probably some of the most dangerous—included in some of the bills yet to be introduced and in those "skeleton" bills already on the calendar.

MODIFICATIONS OF THE MEDICAL PRACTICE ACT

Senate Bill 73 (Senator Young) approved by the Board of Medical Examiners and the Board of Osteopathic Examiners effects the following:

1. Strikes out the proviso (1921 amendment) provided for review by the courts which has been declared unconstitutional. (*Millsap vs. Alderson et al.*).

2. Divides subdivision 6 and adds 6a designed to prohibit the ambulatory treatment of narcotic addicts.

3. Adds section 11a at the request of the Osteopathic Board, penalizing those licentiates who use the suffix M. D. unless the degree has been earned after a course pursued in an approved medical college. This was found necessary in order to have a basis on which to call before the board at least one individual under the jurisdiction of the Osteopathic Board who is reported to have arrived in St. Louis, Missouri, at 10 a. m. and departed at 4 p. m. of the same day with the degree of doctor of medicine issued by the St. Louis College of Physicians and Surgeons.

4. Adds subdivision 11b at the request of the Osteopathic Board to penalize a licentiate who uses the suffix D. O. unless he has completed a course of instruction in an approved osteopathic college and has been granted the degree doctor of osteopathy.

Senate Bill 271 (Senator Crowley) amends section 2 by reducing the annual registration fee to \$1. The osteopathic initiative makes it necessary to exempt said law from this amendment.

Senate Bill 308 (Senator Crowley) amends section 11 and was introduced by the Board of Medical Examiners following a conference with representatives of the three medical schools in this state. (a) Changes the subjects for physicians' and surgeons' examination. (b) Makes some change in the subject of examination for drugless practitioner. (c) Changes subjects of examination for advance from drugless practitioner to physician and surgeon. (d) Exemption clause for osteopathic initiative.

Senate Bill 310 (Senator Crowley) creates section 11a to provide for the recognition of the diploma

of the National Board of Medical Examiners; also exempts osteopathic initiative.

Senate Bill 311 (Senator Crowley) amends section 24, granting the counties 65 per cent and the board 35 per cent of fines collected for violation of the Medical Practice Act. It is believed that this will arouse greater activity in law enforcement, some county officials reporting indifference to enforcement, owing to the cost and the small amount that counties receive from any fine imposed.

Senate Bill 582 (Senator Crowley) introduced by the Board of Medical Examiners is a diploma-mill bill and is similar to Assembly Bill 511, which passed both houses in the 1925 session but was not favored by the Governor. If this measure becomes a law it will put a stop to fraudulent diplomas, forgery of credentials, impersonation of licentiates, and other fraudulent proceedings in attempting to gain a certificate to practice in California.

Assembly Bill 178 (Mr. Woolwine) amends section 13, introduced by the osteopathic representatives, and provides for an oral examination (similar to that provided in section 12½) for those coming from other states and granted reciprocity certificates to practice osteopathy. Hereafter such individuals, after successfully passing an oral examination, may obtain a physicians' and surgeons' certificate.

This bill if passed would still further lower and confuse the already complicated legal machinery for licensing and regulating those authorized to serve the sick in California. It ought to be defeated.

Assembly Bill 315 (Mr. Clowdsley) introduced by the osteopathic board, amends section 24 and provides a means whereby they may collect fines imposed for violation of the osteopathic initiative. The attorney-general has ruled that under the existing law the Osteopathic Board has no authority to collect fines, but that such fines must be deposited to the credit of the Board of Medical Examiners although prosecution has been made by the Board of Osteopathic Examiners.

Assembly Bill 621 (Mr. Jacobson) introduced by the State Association of Chiropodists to raise their education requirements to a two-year course, amends sections 9 and 10 of the medical act. The bill increases the hours of instruction required in the study of chiropody, among which is found electrotherapy.

There is no good reason apparent that additional education would be harmful to chiropodists, but the wisdom of adding *physical diagnosis* and *electrotherapy* to their courses of study may well be questioned. In its end result such legislation promotes such often sloganized objectives, as "the eye for the optometrists," "the foot for the chiropodists," "the skin (or at least that part of it above the waist line) for the cosmetologists," "the hair for the cosmeticians," etc., etc.

CREATING MORE HEALERS

Senate Bill 61 (Senator Crowley) is an "Act concerning cosmetology"—and what an Act! It creates another board to regulate, license, discipline and what-not all people who engage in "arranging, dressing, curling, waving, cleansing, cutting, singe-

ing, bleaching, tinting, coloring, or similar work, the hair of any person with hands, or with mechanical or electrical appliances *or by any means*; massaging, cleansing or stimulating the scalp, face, neck, arms, bust, or upper part of the human body, by the use of cosmetic preparations, *antiseptics, tonics, lotions or creams*; . . . removing superfluous hair from the body of any person *by the use of electrolysis*," etc., etc.

Electrologists are created and may practice this medical specialty only under control of this board of beauty specialists. In order that the "electrologists" and some of the other forms of "medical practitioners" may be improved, it is provided that schools of "cosmetology" shall have a "regularly licensed physician" on their faculties, etc., etc.

In other words, this long and complicated bill is the first step in creating another group of "sub-doctors." One examines the bill in vain for some constructive point calculated to reduce the poisoning, often fatal, now emanating from beauty shops, by the use of *antiseptics, poisons, electricity*, and other dangerous agents by those unskilled in their knowledge, use or dangers. The only thing one finds is a proposal to legalize these incompetents to continue their dangerous, and not infrequently fatal, practices.

Of course physicians, as such, are not more concerned with the fate of this bill than are other citizens, but we would be negligent of our duty did we not warn the public and the legislature of the dangers inherent in legislation of this character.

Senate Bill 717, by Senator Sharkey (Committee on Education) illustrates political trends in control of the practice of medicine.

It places the *health supervision* of school children in the hands of local Boards of Education. They are to carry on this important plan of the practice of medicine, through "physical inspectors" who may be *physicians, teachers, nurses, oculists, dentists, optometrists*, or any one or more of said persons, provided all the "physical inspectors may be chosen from any one of the above classes." Another interesting joker is that to be eligible to practice medicine among the school children, any doctor must also have "*a health and development certificate*." Before nurses, teachers, optometrists, etc., may practice pediatrics for local school boards, they also, among other attainments, must hold a "*health and development*" certificate. These certificates may be issued, among others, to licensed physicians and surgeons who are able to convince county Boards of Education that they have "*special fitness and training*" for practice among school children. Apparently with the sole purpose of re-emphasis, the last paragraph of this amazing bill says: "No physician . . . shall be employed or permitted to supervise the health of pupils under this *or any other provision of law*" unless he holds "*a health and development certificate* from the Board of Education."

This amazing document not only in effect constitutes an amendment to the Medical Practice Act, but it authorizes persons to practice medicine among school children who are not otherwise authorized or licensed to diagnose or treat human beings.

CURING CRIPPLED CHILDREN BY LEGISLATION

One of the strongest, most universal and surest appeals to human sympathy is aroused by crippled children. That every one of them should have all possible opportunities for cure or improvement that medical science can give is obvious, but that reason and intelligence rather than emotionalism and politics should guide our efforts in this direction is equally obvious.

In no phase of medical development has greater progress been made during recent years than in the curative treatment made possible for these unfortunates, and the application of these methods is already extensive and growing rapidly in many directions.

There are in California now ample facilities to handle the problem if they are only utilized; and to make them available to all who need them only requires sufficient money.

All that the state needs to do if it wants to be really helpful rather than paternalistic is to provide sufficient funds to pay the heavy costs of the prolonged treatment of those who are unable to pay for it, and to provide for the intelligent expenditure of those funds where and under such conditions as the state's medical department (State Board of Health) shall approve.

There are now pending before the legislature (Committee on Public Charities and Corrections) Assembly Bill No. 185, introduced by Mr. Coombs; a companion Senate Bill No. 632 (Committee on Governmental Efficiency) introduced by Senator Inman; Assembly Bill No. 438 (Committee on Public Charities and Corrections) and several auxiliary supporting bills, all of which propose to make not only all crippled children, but all "*physically defective or handicapped persons under the age of 21 years*, wards of the state under direction of the non-medical State Welfare Commission.

Assembly Bill 185 and Senate Bill No. 632 provide first that the nonmedical State Welfare Commission shall cause the registration of "all physically defective or handicapped persons under the age of 21 years" and this registration shall include among other facts the "*nature of the defect*." In order that the nature of the "defect" may be determined accurately this nonmedical state bureau shall "*have the power to conduct local diagnostic clinics*"; "*it shall be its duty to furnish* (for the citizens under 21 years who in its judgment are otherwise unable to obtain them) *such surgical, medical, hospital and special treatment* as shall, in the "*judgment*" of this nonmedical board "*be necessary or desirable*." To aid them in the practice of this difficult medical specialty, the Welfare Board may, under specified conditions and at its discretion, use government or private hospitals or "*homes*." The board may also "*contract*" for the services of "*professional and business persons, firms and corporations*." These bills provide for the employment of an "*assistant secretary*," qualified in "*work for physically handicapped and with a working knowledge of public health service*" and such other employees as the Welfare Board may deem necessary for the carrying out of

the provisions of the law. An initial appropriation of \$105,000 is asked.

Senate Bill 342 deals with the responsibilities of counties in this proposal to put the state further into the practice of medicine by unlicensed persons than it now is. It goes a step further by making it the duty of every physician (among others) to report "*at once to the superintendent of schools*" any minor whose hearing is impaired and makes failure "to report the name, age and residence of any minor with impaired hearing immediately" . . . "a misdemeanor." There is no definition in the bill of "impaired hearing" or of "immediately." Does the state pay for the letter and report and postage? Why not let school teachers do this, without a probably unconstitutional law, creating another new (!) misdemeanor.

* * *

Who are included among "*all physically defective or handicapped persons under the age of 21 years*" that these bills propose to add to the medical wards of the state? The bills do not specify but leave the inference that they are those who are so diagnosed by the State Welfare Board.

Without further definition, an honest, intelligent interpretation of the law would include an amazingly large percentage of all citizens under 21 now under medical care and many thousands who are not. Among others it would of course include a considerable proportion of those with tuberculosis, which, under another pending bill, is included among the diseases covered by the Industrial Accident Compensation laws of the state.

Minors who are temporarily or permanently "defective or handicapped" because of physical shortcomings, accidents or disease past or present, like other citizens needing medical attention are of two fundamental classes: (1) those whose economic condition permits of their securing and paying for such service as their parents or guardians care to obtain and (2) those unable to secure service from available sources.

Needless to say, both classes are entitled to and should have the best care available. There is plenty of such skilled service to serve all who need it in California and to make it available alike to all it is only necessary for government to bear the cost when necessary, including transportation for those unable to pay for it. This, the government started to do some years ago by making a special appropriation to the University of California Hospital for the purpose. Why not increase this appropriation and, if need be, extend it to other existing medical centers prepared to serve orthopedic conditions?

* * *

If another "survey" is needed, let the state have it made by a competent medical agency and give to that agency—its own medical department or State Board of Health—what additional authority it needs, if any, in the assignment and care of those who by reason of economic insolvency have a just claim on society.

The Board of Education already has ample authority to render the auxiliary service of education to crippled children and for the state to go further and place the practice of orthopedics—a difficult

medical specialty—under the control of a non-medical board with funds to create and operate clinics and "contract with hospitals, professionals and corporations" is without justification; would constitute a precedent calculated to discourage or destroy progress already made; would be illegal under existing law, dangerous and wholly unnecessary.

CURRENT THEORIES OF CARDIAC OUTPUT AND THE ALLEGED SEDATIVE ACTION OF DIGITALIS ON THE HEART

At a time when much work is being done on the more accurate estimation of cardiac output in man and experimental animals under a variety of conditions, it is desirable to scrutinize the meaning of cardiac output and how the latter may be influenced by drug action. Cardiac output is by no means synonymous with cardiac work, for the latter depends on the pressure against which each unit of blood is expelled, and on the efficiency of the heart muscle. Neither of these latter factors has been adequately computed although they are probably of greater importance than either arterial pressure or cardiac output. It is also worth remembering that there are definite sources of error in the best methods of measuring blood flow in man, and that while these methods have yielded some accurate data they have not in any way revolutionized the facts on which theories of heart failure rest. Many of the current theories based on blood flow observations are invalidated by disregard of simultaneous changes in blood pressure, and some of them are based on methods of guessing blood flow no more accurate than the old pulse rate times pulse pressure formula. The method of calculating flow through the heart by studying blood gases in the arm and oxygen consumption is one of the fallacious methods, as was pointed out by Grant,¹ who first used it, although later workers seem to have overlooked his advice.

Some other theories are based on accurate methods, but incomplete evidence, and, therefore, are not convincing. The results are usually obtained on dogs in which either the size of the heart or blood flow is studied, but not the two simultaneously as should obviously be done. On the basis of such incomplete evidence it has been urged that the heart puts itself in harmony with increased flow through it by dilatation and hypertrophy. However, mere inspection of the normal heart and knowledge of the normal pulmonary and aortic pressures suffice to indicate that ventricular thickness is related to blood pressure more than to blood flow. Moreover, it has been adequately demonstrated that a decrease in heart size occurs during the greatly increased blood flow of strenuous exercise, and an increase in size on giving drugs which elevate blood pressure, including those, such as pituitary extract, which reduce flow. Therefore, it seems well established that blood pressure, far more than blood flow, determines cardiac hypertrophy and dilatation. Unfortunately for therapeutic studies, however, simple facts and logical deductions may not always be found together, including those on cardiac output.

From work on unanesthetized dogs injected with

1. Grant: Arch. Int. Med., 1923, 32:769.

a product purported to be derived from digitalis, Harrison and coworkers² of the Vanderbilt University Department of Medicine claim a decrease in cardiac output, from which they make the deduction that digitalis is a cardiac sedative and should not be used in circulatory failure due to shock toxins. These authors infer that shock in experimental animals accounts for the increased cardiac output under digitalis observed by Cushny, Tigerstedt and others. In their sweeping deductions, which would contravene the well known and accepted clinical actions of this drug, the Vanderbilt investigators do not consider blood pressure changes, which they have neglected in their experiments, nor the well-known difference in digitalis response of dogs and human subjects, namely, that the increase in blood pressure in dogs does not occur in man. It is obvious that a drug which increases myocardial irritability is not a sedative, whether it decreases cardiac output or not. In dogs the blood pressure change (increase) alone will account for any diminished blood flow, and it is to be assumed that any drug which increases blood pressure will diminish cardiac output. It seems clear that in this work a rather free, though unwarranted, assumption has been made, namely, that results from dogs are directly transferable to man. What is not so clear, and even more regrettable, is why an official preparation of digitalis, or some well known and understood digitaloid product, was not used in this study. Instead, however, a secret, and to the Council on Pharmacy and Chemistry unacceptable, product³ was used. Clearly, therefore, criticisms of thoroughly established work with digitalis based on results with such a product without controls of its action and comparisons with well-known digitaloids are misleading and will not be readily accepted.

One may be ready to admit that certain types of circulatory disease and heart failure may present an increased cardiac output, even in extremis, just as in certain cases a high arterial pressure may be maintained till death, and that in some cases digitalis may decrease the blood flow, as in other cases it may diminish blood pressure. However, the importance and logic of the situation demand more than mere mention of possibilities. It is to be hoped that investigators of these fundamental questions will consider blood pressure, among other things, along with cardiac output, and, in observing drug action, will use recognized rather than proprietary and unaccepted products.

SCIOSOPHISTS AT THE LEGISLATURE

The president of the Santa Barbara branch of the American Association for Medical Progress, Inc. (see page 388), as well as a number of other organizations and individuals, are deeply concerned lest the legislature now in session may follow the lead of Tennessee and pass an anti-evolution law in California.

There is no doubt but that sciosophists are doing all they can in that direction, and they have suc-

ceeded in getting their bill introduced in the assembly.

It is difficult to get excited over proposed legislation of this character because we believe the legislators of California are too intelligent to see more than a little humor in the situation; and if by chance they should pass such a law, we feel confident that Governor Young, who is also chairman of the Regents of the great State University, would veto it.

After all, Mohammed had to go to the mountain, and sciosophists of the anti-biological science type will have to go to their mountain or they will disappear with the rising tide of public enlightenment. Biological laws are no more susceptible to man's ordinances than an elephant's hoof to the bite of mosquitos.

It is said that never before was there such interest in biology, including the laws of evolution, as there is today among the youth of Tennessee. There are more boys studying evolution than there are learning to smoke cornfassel cigarettes in the alleys out behind the barn. The younger ones think such study a lark, while those more mature realize that without a fundamental knowledge of biology they may not travel far along the road of education in Tennessee or elsewhere.

Our legislators lead tense, strenuous lives during the session. By all means let them have a little fun. Most of them are educated, intelligent citizens, and our First Citizen sitting downstairs in the Capitol is a graduate from, and now presiding officer over the destinies of, a great university.

The Council on Physical Therapy of the American Medical Association (*Journal A. M. A.*, July 22, 1927), on the basis of the present available evidence, is convinced that the sale of generators of ultraviolet energy to the public for self-treatment is without justification. The Council bases its condemnation of the sale of such apparatus for this purpose on the following grounds:

1. The uninformed public could not take the proper precautions in administering treatments and, as a result, severe general burns or grave injury to the eyes might ensue.

2. Those not familiar with the possibilities of such apparatus would be led to place unwarranted confidence in the therapeutic value of such treatment by the claims that might be made in the literature advertising such generators, and to undertake to treat serious conditions not amenable to such treatment.

3. The unrestricted possession of such therapeutic means would tend to deprive people of expert diagnosis by encouraging them to make self-diagnoses.

4. Such practice would encourage the sale of useless and fraudulent lamps which would be advertised as generators of ultraviolet rays, since the public would have no means at its disposal to determine the quality or quantity of the radiant energy emitted by such lamps.

For the foregoing reasons, the Council on Physical Therapy considers as detrimental to public welfare the sale or the advertising for sale, directly to

2. Harrison and Leonard: *J. Clin. Investigation*, 1926, 3:1; Harrison and Blalock: *J. A. M. A.*, 1926, 87:1984.

3. Diginol, *New and Non-Official Remedies*, 1926, p. 403.

the public, of a generator of ultraviolet energy. Under rule 11 of its Official Rules, the Council will declare inadmissible for inclusion in its list of accepted devices for physical therapy apparatus manufactured by a firm whose policy is in this matter detrimental to public welfare.

There comes a time in the career of almost every physician when he has a desire to communicate his experiences in the practice of medicine to his colleagues. It may be the report of a single case or it may be the publication of an epoch-making discovery, but the success he attains in conveying his message to others in a written paper will depend largely, if not entirely, on how it is presented. He may have been a very successful physician who has read widely, but when it comes to conveying his own thoughts to others through the printed page he may find it extraordinarily difficult.

The reviewer of current medical literature is thoroughly cognizant of the fact that much valuable information is entirely lost annually in the vast number of papers published, because the authors fail to assist the reader in arriving at the true meaning quickly and easily with the least amount of mental effort. The busy reader usually prefers to pass on to the more readable paper. The author's style did not command the respect, interest and attention that it may have otherwise received. It is, therefore, not difficult to understand that badly arranged and poorly planned papers rarely secure more than a brief glance from the reader and editor, regardless of their merit and the information the contribution may contain.—*Internat. Med. Digest.*

The doctor who succeeds in private practice today will do so for precisely the same reasons that the proverbial old time family doctor succeeded. There are a few basic principles of success—some inherited and others acquired.

Doctor Francis Graham Crookshank (*Forum*, February) discusses one of the most important and the one most frequently overlooked. "Cases" are as cold-blooded and impersonal as a forge in a Ford factory, disease is little better.

It is patients, persons, individuals (not cases nor diseases) who require service, and any physician who forgets or ignores the fact is doomed to failure. True, some such do make money, but they never become physicians.

The plea that successful busy practitioners with limited time and special skill cannot afford to care for those in moderate circumstances sounds reasonable. But such doctors can do much in the way of extending their skill to the care of this class of patients by using the younger men in the profession ostensibly to look after detail, but in reality to do the work. By so doing they discharge a threefold duty.

First: They assist materially in aiding the younger men to gain the confidence of the laity earlier than they would otherwise.

Second: They do not enrich the harvest field of the quack and cultist with patients who should go to our younger men.

Third: They do not drive to free clinics people of moderate means, who are able and desire to pay what they can.—S. D. Van Meter, *Colorado Med.*

MEDICINE TODAY

Current comment on medical progress, reviews of selected books and periodic literature, by contributing editors

The Editor: Judged by responses from contributors and readers, "Medicine Today" fills a need, and one that is being met with astonishing effectiveness.

In order that the obvious purposes of the department may continue to be best carried forward, contributing editors should bear in mind that *clarity and brevity* are the essence of good writing of this character. Editorials, comments, résumés and reviews, of less than 500 words, are the most valuable, and those of over 750 cannot be used. Brevity and clarity are easily possible by sufficient limitation of the subject and by writing, rewriting, condensing, revising, polishing and repolishing, until not only does the editorial as a whole carry a definite message, but until each sentence means something worth while.

Copy for each issue must be in our hands by the tenth of the month preceding publication.

Anesthesiology

THE increased interest in and use of local anesthesia in major surgery was stressed at the Congress of Anesthetists, which convened with the British Medical Association at their annual meeting at Nottingham in July, 1926. At the joint meeting of the Section on Anesthesia with the Surgical Section, Professor Finsterer of Vienna, who demonstrated his methods in San Francisco a couple of years ago, reported 807 abdominal sections under splanchnic anesthesia without a death. He emphasized the dangers of ether and deplored the impossibility of using gas in his clinic because of cost and the lack of qualified administrators. He strongly advocated "combined anesthesia," i. e. local and nitrous oxide and oxygen, in those cases where local alone proves inadequate.

Anesthesia in relation to cardiovascular affections was the subject of a paper by F. W. Price of London and the discussion by Blomfield, author of a new treatise on anesthesia, and Ernest Von der Porten of Hamburg was of much interest.

The president-elect of the British Medical Association, Sir Robert Philip of Edinburgh, where the next annual meeting is to be held in celebration of the centenary of Lister, emphasized the rôle of the anesthetist as the "physician of the surgical team."

The meetings of the Scottish Anesthetists in Glasgow and Edinburgh and those in Nottingham with the British Medical Association have been reported at length in the *Journal of the British Medical Association*, the *Lancet*, and the *British Journal of Anesthesia*.

Professor Haldane presented a paper on the "Physiology of Respiration" to the Anesthetic Section of the Royal Society of Medicine, London, which is published in the October number of the *Proceedings of the Royal Society of Medicine*. Anesthetists will find much of value in this paper on the respiratory problems of anesthesia.

The clinics arranged for the visiting anesthetists at the Glasgow Royal Infirmary, the University of Edinburgh, Bartholomew's, Guy's, Middlesex and the Royal Dental Infirmary, London, impressed them with the skill and training along physiological and pharmacological lines of the British anesthetists.

A unique method of anesthesia in upper abdominal surgery was described and demonstrated by C. Langton Hewer of London. The trachea is catheterized by direct vision with a laryngoscope under ether, and anesthesia maintained with nitrous oxide, oxygen and ether. By increasing the proportion and pressure of oxygen, the respiratory movements can be brought down to practically zero as the blood is sufficiently oxygenated, thus obtaining an immobile field for the surgeon's manipulations.

The deep degree of anesthesia necessary to obtain the so-called "slack abdomen" required by British surgeons is responsible for the adherence to chloroform in many cases and also accounts for the absence of technician anesthetists. This also explains the practice of omitting morphin in the preoperative medication and the use of large doses of atropin. The preference for chloroform is declining, however, and the value of carbon dioxide for respiratory stimulation and deetherization is well recognized. Nitrous oxide and oxygen is gaining ground rapidly and much interest was shown in the demonstration of his gas and oxygen apparatus by McKesson.

The method of having but one or two papers with full and free discussion, which obtains at the British meetings, was noteworthy.

The Associated Anesthetists of the United States and Canada carried home many memories of the high professional attainments, as well as the cordial hospitality of their hosts, and are looking forward to the next congress with the British Medical Society, which is to take place in Winnipeg in 1930.

The development of the various methods of local and regional anesthesia offers the hope of solving one of the problems of the specialty of anesthesiology. If a large percentage of the operations which at present require general anesthesia may be properly done with the use of local, the need for the great numbers of anesthetists, which are necessary at present, will be obviated and a higher type of anesthetist will be produced.

MARY E. BOTSFORD.

Communicable Diseases

THE Rôle of Toxins in Certain Infectious Diseases—It is incredible that almost twenty years elapsed between the first reports of Savchenko's¹ toxin and antitoxin for the scarlet fever streptococcus and the more recent work of Dochez² and later the Dicks,³ who were able to confirm the pioneer investigations and put their own discoveries to a practical test. Today, aside from a number of unexplained inconsistencies of a bacteriological and immunological nature, the rationale of scarlet fever toxin and antitoxin is probably established.

The impetus given to similar investigations by such work has put experimenters on the trail of a toxin for the streptococci found in measles. The studies by Hektoen's associates,⁴ reported from Chi-

cago during the past year, bid fair to settle an old controversy if the work should be confirmed. The clinical manifestation of the exanthemata should have suggested ere this the probable rôle of toxins in these diseases.

More surprising than the unaccountable mental and experimental lag regarding scarlet fever, measles, and related infections, is the absence of fundamental investigations concerning the part which toxins seem to play in acute rheumatic fever and particularly in subacute bacterial endocarditis. Granted that the bacteriology and immunology in these diseases are not yet on an established basis, due to difficulties in technique and in classification of the strains of organisms, none the less, studies with Berkfeld filtrates of some of the streptococci may yield important and surprising data. There are cogent reasons for suspecting a bacterial toxemia in subacute endocarditis. Not the least of these is the localization of the organisms in certain parts of the body while appearing in relatively small numbers in the circulating blood and producing a toxemia out of all proportion to their number found during life or after death. In this regard the conditions do not differ essentially from those in other infectious diseases caused by toxin-producing bacteria. While a most recent report by Small⁵ on the etiology of rheumatic fever lacks certain necessary controls to make the study convincing, it does suggest forcibly the need for further work along the lines of bacterial toxins in this disease.

Finally, one is led back over the old and well-beaten trail of tuberculosis. Here too it is astonishing that the rôle of toxins as the most important aspect of the clinical findings has been utterly disregarded until within recent months. As early as 1903 Denys⁶ described laboratory and clinical experiments with a Berkfeld filtrate of bouillon cultures of tubercle bacilli. It is important to recall that this substance had not been altered by him either physically or chemically and could be readily destroyed by heating. Here we have the germ, so to speak, of a toxin! So engrossed was Denys with the therapeutic possibilities of his "B. F." (bouillon filtré) that he failed to devise experiments necessary to establish fundamental principles upon which the identification of a toxin must be based. So, too, Spengler⁷ missed an opportunity in his researches on a bouillon filtrate. Recently, however, clinical and laboratory investigations⁸ reported from the University of California appear to have thrown new light on the fundamental mechanism of toxin production by the tubercle bacillus and the rôle of such toxins in the diagnosis and possible therapeuticis of the disease. These researches, furthermore, have offered decisive evidence that the tuberculin substance is entirely different from and bears no relation to the toxin element.

The old is ever new and the new ever old in the field of medical discovery.

FREDERICK EBERSON.

1. Savchenko, I. G.: Russk. Vrach. St. Petersburg, 1905, 4, 797.
2. Dochez, A. R., et al.: J. A. M. A., 1924, 82, 542; J. Exper. Med., 1924, 40, 253; *Ibid.*, 493.
3. Dicks, G. F., and G. H.: J. A. M. A., 1924, 82, 265; 84, 803.
4. Tunnicliffe, R., et al.: J. A. M. A., 1926, 87, 846; *Ibid.*, 2139.

5. Small, J. C.: Am. J. M. Sc., 1927, 173, 101.
6. Denys, J.: Le Boillon Filtré, Paris and Louvain, 1905.
7. Spengler, C.: Zeitschr. f. Hyg. u. Infektionskrankh., 1897, 26, 323.
8. Eberson, F.: Proc. Soc. Expt. Biol. and Med., 1926, 24, 79; J. A. M. A., 1926, 88, 313; Am. Rev. of Tuberculosis, 1927, 15, 127; Proc. Soc. Expt. Biol. and Med., 1927, 24, 329.

Dermatology and Syphilology

THE Power for Good and Evil of Arsenic as a Remedy for Skin Diseases—The first knowledge of the specific pharmacodynamic effects of arsenic on the skin was gathered from observations on arsenic eaters, and from reports of various epidemics of arsenic poisoning.

Dermatologists learned long ago to restrict the use of arsenic to certain groups of chronic dermatoses such as lichen planus, dermatitis herpetiformis, leucæmias. Its use in chronic eczemas is abandoned; in psoriasis it is used much less than before; and in acute dermatoses its use is considered definitely contraindicated.

The outstanding effect of arsenic on the skin is the exaggeration and stimulation of all nutritional and functional activities. Of these we are concerned here with the tendency of arsenic to stir up inflammatory dermatoses of eczematoid type.

The first notice of this type of arsenic reaction was served on the profession with the advent of the arsphenamine therapy in syphilis, particularly where used as a routine procedure in courses and series of a certain number of injections. Exfoliating arsenical dermatitis with exceedingly grave reactions and a number of fatalities were reported. Fortunately, however, in 1920 the important discovery made by Ravaut of France, and introduced in this country by McBride and Dennie, that sodium thiosulphate is a chemical antidote of arsenic has decreased but by no means removed exfoliating dermatitis from the dreaded and fatal episodes in the lives of syphilitics.

The statement will bear repetition that many of these consequences can be prevented if the physician will look for and detect the first prodromal and warning signs of the arsenical intolerance and the impending danger. These signs, as so ably portrayed by John Stokes, are: (1) small punctate subcuticular flush about the trunk, neck and flexures on the day following the injection; (2) patches of dermatitis at the flexures, upon the shins, or the face. These may be present for some days or even a week before the explosion; (3) severe itching of the skin on the day following the injection; (4) scarlatiniform or morbilliform erythemas.

A new and further important observation has been made by Throne, Van Dyck and associates,² who have reported a series of eczema cases in which the history was suggestive of a possibility of arsenic absorption through food, environmental or occupational channels. They treated these patients with intravenous injections of sodium thiosulphate and were able not only to clear up the skin lesions, but also to demonstrate the elimination of arsenic in the urine. Further elaboration of this observation may prove valuable in many other cases of chronic eczema with seemingly obscure etiology; and it also adds another emphatic reminder of the potentially powerful irritating effects of arsenic on the skin.

MOSES SCHOLTZ.

Endocrinology

IODIN Therapy in Neurocirculatory Asthenia—During the World War physicians of all participating nations were puzzled by a symptom complex which manifested itself in many thousands of soldiers. It received various appellations: "irritable heart," "effort syndrome," "neurocirculatory asthenia," "autonomic imbalance," and "sympathicotonia." Many of the symptoms mimicked the clinical picture of Graves' disease in mild form, namely, palpitation, tachycardia, tremor, sweating, nervousness, excitability and irritability, insomnia, and lack of energy. Loss of weight was exceptional, although the majority of such individuals were apt to be undernourished rather than obese. Goiter was sometimes noted, but whether it was coincidental or related to the syndrome remained uncertain; at any rate the goiter was not of the hyperplastic variety (highly vascular with thrill and bruit characteristic of Graves' disease). Exophthalmus and the so-called thyroid eye signs were usually absent and, if present, were rarely pronounced. The basal metabolic rate was almost always normal. Occasionally a slight elevation was recorded (15 to 25 per cent plus). Repetition of the test usually disclosed a normal rate.

This syndrome is frequently encountered in civil life, especially in girls and young women and sometimes in men. Many of these patients have been regarded as victims of mild Graves' disease; some of them, therefore, have received inhibitory roentgen therapy to the thyroid gland; others have been subjected to partial thyroidectomy. Such treatment almost uniformly has failed to relieve the symptoms. The hypothesis of an hyperthyroidism as the fundamental cause seemed to be erroneous.

It was equally unsatisfactory, and futile, to dismiss these patients with a diagnosis of neurasthenia. Digitalis had but little influence on the tachycardia or subjective symptoms. Sedatives, such as bromides, were rarely effective and at best provided only temporary relief. Relatively slight emotional strain rather than physical effort evoked or exaggerated the syndrome, and yet psychotherapy, or "skillful neglect," proved less satisfactory than might have been anticipated. Rest cures, change of climate, ocean voyages, and all the gamut of medical artistry accomplished but little for this group of patients.

Critical opinion had about dismissed the idea of thyroid accountability when Kessel and Hyman, about two years ago, advanced the thesis that autonomic imbalance and Graves' disease were practically identical except for the absence in the former, and the presence in the latter, of an increased basal metabolism. Indeed they conceived of autonomic imbalance as a preliminary stage of Graves' disease and claimed that they had actually witnessed this transformation.

In the past few weeks the question has been reopened by an interesting contribution from Strouse and Binswanger¹ of Chicago. In a preliminary report of fifty cases, thirty-two of which had been "carried through long enough to permit of analytic study"; they announce that iodin medication produced remarkable and prompt relief of the symp-

1. J. Stokes: *Modern Clinical Syphilology*, 1926.

2. Throne, Van Dyck, etc.: *New York State Journal of Medicine*, October 15, 1926.

1. Jour. Amer. Med. Assoc., 1927, 88, 161-164.

toms. They believe, therefore, that this syndrome is associated with iodin deficiency. Moreover, the iodin treatment did not affect the metabolic rate. They are inclined to the idea that effort-syndrome (neuro-circulatory asthenia, etc.) is due to some temporary derangement of thyroid function, and the writer agrees with them that a normal metabolic rate does not exclude thyroid disturbance.

The precise rôle of iodin therapy even in the well-recognized forms of thyroid disease is by no means settled. Its usefulness in the prophylaxis of endemic goiter has been abundantly confirmed. It is often effective in causing simple adolescent goiter to disappear. Its revival in recent years in the treatment of Graves' disease has been most interesting. There can be no doubt that in exophthalmic goiter iodin therapy causes a prompt and precipitate drop in the basal metabolic rate with striking improvement in many symptoms, and that its preoperative use in this disease helps to avoid postoperative thyroid crises and consequently reduces the surgical mortality. Its indefinite use in Graves' disease over a long period of time is not so beneficial and indeed may at times be harmful. Its administration in adenomatous goiter is supposed to be contraindicated though some dispute this. And now it is recommended for the symptoms of autonomic imbalance.

One must admit that this iodin beneficence in such diverse though related states, remains perplexing. But whatever the ultimate explanation may be, it will be a boon to a multitude of people if further experience with iodin corroborates the report of Strouse and Binswanger and relieves the symptoms of neurocirculatory asthenia.

H. LISSER.

D^O All Forms of Tetany Depend on a Parathyroid-Calcium Disturbance?—The intimate association of laboratory investigation with clinical application is perfectly illustrated in the treatment of tetany parathyreopriva and conditions which simulate it closely.

Many theories of the pathogenesis of tetany have been promulgated. These vary from the assumption that a simple toxemia is the responsible agent, to elaborate explanations based on complex changes in the chemistry of the blood. McCallum stated several years ago that there may be several types of tetany differing widely in their etiology and in the mechanism of their production, although the final changes in the blood which bring about the actual symptoms may be the same.

The isolation by Collips, early in 1925, of a parathyroid hormone, which definitely influences calcium metabolism as evidenced by its effect on the blood serum calcium, has given renewed impetus to the metabolic study of the various inorganic constituents of the body. In most, but by no means all of the various types of tetany there is a reduction in the calcium content of the blood serum, and inasmuch as a paucity of calcium produces an hyperexcitability of the nerve cells, considerable interest has been manifested by various investigators in the metabolism of calcium.

Scott and Usher¹ have recently reported the re-

sults of their studies on the etiology and hematology of twenty-one cases of infantile tetany. One of the important results of this observation indicates that disordered calcium metabolism is not always indicated by changes in the calcium content of the blood serum and that there may be a defective utilization of calcium by the body even when the amount of that element in the food or blood is normal. They cited two cases in which infantile tetany occurred despite a normal blood serum calcium. On the other hand, if the fact that a reduction in the calcium ion concentration of the neuron results in an hyperexcitability, it must be assumed that in certain instances at least an actual diminution of calcium ion does not occur despite a marked lowering of that element in the blood serum, for the writer has seen at least one case in which the blood serum calcium was reduced to the extremely low figure of 5.5 mg. per 100 cc. (a case of severe alkalosis) without the usual manifestations of tetany being apparent.

Obviously then there must be some factor other than the actual lowering of the calcium content of the blood serum which produces the profound hyperexcitability of the entire nervous system associated with the clinical syndrome of tetany. Wells has stated that the calcium salts are held partly in solution, partly in protein suspension, and partly in the form of calcium ion protein compounds. It is probable then that even though the blood serum calcium content is normal, as in gastric tetany and in the tetany resulting from hyperpnea, the calcium is not available for use by the body. In other words, the determination of the ionized calcium rather than the total calcium is a procedure which must be investigated thoroughly before it is possible to properly evaluate the various theories of the pathogenesis of tetany.

The writer ventures to predict that eventually it will be determined that the hormone as isolated by Collip affects the calcium content of the serum only secondarily, the primary effect being in some way associated with the ionization of calcium. Such a condition would simplify the explanation of tetany and give very strong support to the unitary pathogenesis of all forms of tetany, the underlying factor being a metabolic disturbance which produces a reduction of calcium ions from the neurons, no matter by what means.

H. CLARE SHEPARDSON.

Gastrointestinal Disorders

JAUNDICE—Jaundice results from staining of the tissues with bile pigment. Bile pigment, or bilirubin, is a product of hemoglobin catabolism. Although there have been supporters of the extrahepatic as well as the hepatic formation of bile pigment, it was pretty generally accepted until recently that the liver was essential for bile pigment production. However, with improved methods as applied by Whipple, Rich, Mann and others, it is now definitely established that under normal conditions bilirubin is formed in the liver, spleen and bone marrow, and apparently in no other organs or tissues. With bilirubin produced in the bone marrow, spleen

1. Journ. A. M. A., 87-1904, 1926.

and liver (apparently by the cells of the reticulo-endothelial system), and being excreted by the polygonal cells of the liver, it is evident that the pigment must be present in the circulating blood. We now have two methods by which this bilirubin in the blood serum may be measured. The first is the van den Berg test which can be readily applied in clinical work, the second is the more sensitive spectrophotometric method. By these methods it has been established that normally the concentration of bilirubin in the circulating blood varies but slightly. In the presence of definite jaundice these methods show the bilirubin content markedly increased, and allow of the accurate study of the degree of bilirubinaemia during the progress of the case. Finally, and of great importance, is the fact that these methods have enabled us to recognize degrees of bilirubinaemia, above the normal but below the degree necessary for definite jaundice, states of so-called latent jaundice. Such states of latent jaundice or definite jaundice must arise in one of three ways: (1) From increased formation of bilirubin in the spleen, liver, or bone marrow from increased destruction of red blood cells. (2) From a failure of the liver to excrete the bilirubin normally present in the circulating blood. (3) From a reabsorption of bile from the bile passages after excretion by the liver.

Our present classification of jaundice is based on these possibilities. Thus we have (1) haemolytic jaundice, in which as a result of increased blood destruction excessive amounts of bilirubin find their way into the circulating blood; (2) toxic and infectious jaundice, in which as a result of toxic or infectious processes the functional activity of the polygonal cells of the liver is so disturbed that they are unable to excrete the bilirubin normally present; (3) the well-recognized obstructive jaundice which results from the reabsorption of bile from the obstructed bile passages. There is also a fourth group which includes combined types, as it is evident that the same factors that produce increased hemolysis may also affect the polygonal cells of the liver, or that as a result of biliary tract obstruction the polygonal cells may also suffer.

It is apparent that in the obstructive type of jaundice all the constituents of the bile must find their way into the blood stream, whereas in hemolytic jaundice we are dealing with a pure bilirubinaemia. In the toxic and infectious type the bile salts and cholesterol may or may not be increased in the blood stream. It also seems established that bilirubin which has passed through the polygonal cells of the liver undergoes some change in structure so that its reaction with Ehrlich's diazo reagent as used in the van den Berg test is altered. As a result the van den Berg test gives valuable aid in differentiating the various types of jaundice.

From this brief review it is apparent that in cases of disturbed bilirubin metabolism our attention must now be centered on the degree of bilirubinaemia rather than upon the tardy and inaccurate estimation of the degree of tissue jaundice. To this end the van den Berg test should be generally adopted.

W. W. BOARDMAN.

Industrial Medicine

MEDICAL service in industry started because of surgical problems which arose out of employment. After establishment most industrial medical departments find that there is a new type of work, that of caring for minor illness.

According to C. H. Watson,¹ medical director for the American Telephone and Telegraph Company, there are three types of purely medical work in industry: (a) emergency sickness cases; (b) counsel and advice on sickness problems; and (c) diagnostic service. First aid should not be applied to injuries alone, but is also just as important and as properly applicable in sickness.

Sick employees are of two kinds: ambulatory and static, which is to say that they are able or not able to report to the dispensary. It is regarding those who are ambulatory that we are concerned and, further, with those who remain at work rather than those sent home.

"Is industry justified in maintaining such a physical disability repair shop? And does such service take business away from the local practicing physicians?" The average patient who has a minor ailment and is not incapacitated to the extent that he is kept away from work, is not likely to spend money on doctors. Without medical advice at this stage he would either resort to patent medicine or home remedies; in any event he initiates a campaign of self-treatment. Is it not rational, therefore, to apply the same principles here as in case of first aid treatment in accidents? A little wise advice at this stage may ward off a serious malady or, what may be worse in its moral effect, a bad habit. This is really the application of the ounce of prevention.

Three types of patients apply to the industrial dispensary for treatment of minor ailments: (1) those coming just occasionally; (2) those who are habitual visitors (the overcautious); and (3) those who report for every little uncomfortable sensation (the high mental type with morbid tendency). Watson² feels that if industrial medicine did nothing else than classify workers in this way, according to their reaction to illness, such a service would be justifiable in the light of useful information thus gained.

It is with the second and third types of patients mentioned that the advisory and diagnostic work is done. When medical problems arise, obviously the solution is best reached through the medical department. The extent of the diagnostic service will vary according to the individual case, the type of industry, its location, and the availability or necessity of the service of a specialist.

On account of the fact that the industrial physician cannot go out into the plant and select his patients, he will depend mainly on the overseers and supervisors to send in persons who do not appear to be functioning at their usual efficiency. This does not mean an intensive search for "lame ducks," but merely a check on the producing end of the organization.

1. Watson, C. H.: Some Aspects of Industrial Medical Practice, *The Nation's Health*, 8:817, December, 1926.

2. Watson, C. H.: Selling Industrial Medical Department Activities. *The Nation's Health*, 9:16, January, 1927.

The medical department should also be prepared to give advice concerning the services of specialists; the employee should be referred to men of ability and integrity and at the proper time for the best results.

There is an excellent opportunity in this work for the propagation of the right kind of health information at the time when it may do the most good.

Examination on return to work after illness is a health procedure worthy of a regular place in an industrial health program.

C. O. SAPPINGTON.

Medicine

ETILOGY of Rheumatic Fever—Ever since the beginning of the bacteriological era some fifty years ago physicians have attempted to prove a microbial cause of acute rheumatic fever. For the interesting story of the successive organisms which have been incriminated, beginning with the anaerobic bacillus of Achalme, the reader is referred to the review by Swift and Kinsella.¹ Suffice it to say that nonhemolytic streptococci of one sort or another, especially the "diplococcus rheumaticus" of Poynton and Payne, have received especial support, although the most conservative modern opinion holds that the virus of rheumatic fever is as yet undetermined. Swift¹ studied the subject critically, and with the most careful methods of blood culture was able to recover nonhemolytic streptococci in less than 10 per cent of fifty-eight patients. Furthermore, the bacteria were not uniform, but represented different members of the so-called "viridans" group. It should be remembered that nonhemolytic streptococci are uniformly present in tremendous numbers in the upper air passages of every human being, both normal and abnormal;² they appear within twenty-four hours after birth. In accord with this fact it is found, in all laboratories where many blood cultures are made, that from time to time a positive yield of *s. viridans* is obtained regardless of the nature of the disease which is being investigated.

Rheumatic fever presents certain fundamental clinical differences from known nonhemolytic streptococcus infections such as *s. viridans* endocarditis. The pathological changes, as clearly pointed out by McCallum in his Harrington lecture,³ are entirely different; the great tendency to renal lesions in streptococcus infections is absent in rheumatic fever, and the response to salicylates, often striking in the latter, is insignificant in the former.

It is with interest, therefore, that one reads the recent paper of Small⁴ in which a nonhemolytic streptococcus, designated streptococcus cardioarthritidis, is advanced as the cause of rheumatic fever. The organism, which possesses the characteristics of many members of this group, was recovered in the

first instance from the blood of a patient with rheumatic fever. Later similar organisms were isolated from the *throats* of patients not only with acute rheumatic fever, but with chronic arthritis, acute nephritis, and other conditions. The original blood culture strain in large doses (25 cc. of 24-hour broth culture) produced arthritis and other lesions in rabbits. A serum prepared by immunizing a horse was used in a small number of patients. Its administration was followed usually by a marked improvement within one to two days, which in some cases was maintained for months.

Interesting as these results appear to be, a careful analysis of the work yields no final evidence either that the "streptococcus cardioarthritidis" is the cause of rheumatic fever or that sera prepared from it have a specific effect. The occasional recovery of a streptococcus from the blood, as pointed out above, means little; the recovery of nonhemolytic streptococci from the throat—their normal habitat—means even less. It has been shown repeatedly that any streptococcus injected into rabbits in large quantities produces joint lesions and other changes which have no specific relationship to the pathology of rheumatic fever.⁵ The therapeutic effects of Small's serum immediately raise the question of nonspecific action of foreign protein. Results apparently as striking have been reported in large series of cases by Miller,⁶ Cecil,⁷ and many other workers after injection intravenously of killed typhoid bacilli and other substances.

In brief, before accepting the etiological rôle of the *s. cardioarthritidis* in rheumatic fever one would need information about the frequency of this organism in the throats of the population in general, evidence should be forthcoming that the bacteria produce the specific lesion (Aschoff body) in animals, and finally it must be shown that better results are obtained therapeutically with the immune serum than with plain horse serum, a question at best difficult to decide in view of the variable natural course of the disease.

Meanwhile the matter has already received newspaper publicity. It behooves physicians to adopt a most conservative attitude and to await the results of large series of cases treated under careful hospital control and followed over a considerable period of time before subjecting their patients with rheumatic fever and chronic arthritis to treatment with antistreptococcus sera.

ARTHUR L. BLOOMFIELD.

USE and Abuse of Alkaline Waters—The widespread use of bottled alkaline waters in California has assumed such proportions that it would seem wise for physicians to survey the practice rather critically.

To what extent has this usage arisen as a result of medical prescription and direction, and to what extent from commercial advertising?

If we as physicians are responsible are we fully

1. Swift, H. F., and Kinsella, R. A.: *Jour. Exper. Med.*, 1917, Vol. 19, p. 381.

2. Shibley, G. S., Hanger, F. M., and Dochez, A. R.: *Jour. Exper. Med.*, 1926, Vol. 43, p. 415.

3. McCallum, W. G.: *Jour. Amer. Med. Assn.*, 1925, Vol. 84, p. 1545.

4. Small, J. C.: *Amer. Jour. Med. Sciences*, 1927, Vol. 173, p. 101.

5. Cecil, R. L.: *Jour. Exper. Med.*, 1916, Vol. 24, p. 739.

6. Miller, J. L., and Lusk, T.: *Jour. Amer. Med. Assn.*, 1916, Vol. 67, p. 2010.

7. Cecil, R. L.: *Archives Internal Med.*, 1917, Vol. 20, p. 951.

convinced that the practice is desirable? What harm and what virtue is there in it? Are there well-recognized disorders and diseases which may be relieved by subjecting the body tissues to a rather continuous alkaline bath and, if so, should definite quantity and time limits be designated?

Or have we been drifting into easy acquiescence, thinking there may possibly be some good, or at any rate little harm in such waters, satisfied that our arthritic or hypertension patients have something to play with even though they may have carried away the conviction that a large and continuous consumption is greatly to be desired and is a measure of first therapeutic importance?

It is not uncommon to find patients with hypertension, many with definite impairment of kidney function, using one or two quarts of some popular alkaline water daily for periods of one or two years, believing firmly that this practice is necessary and even life-saving. Some of these people have adopted the usage of such waters because they have read certain advertising literature—too many, perhaps, owing to the direction and encouragement of their medical advisors. There is apparent a great popular misconception and bugaboo about "acid conditions" alleged to exist in the human body and a general tendency to ascribe to such nameless disorders a multitude of symptoms and dysfunctions that by careful analysis can be explained otherwise.

The conditions of acidosis, alkalosis, and the maintenance of the acid-base equilibrium in the body are only beginning to be understood. Much more careful experimental work remains to be done before we can be too dogmatic on the subject. There seems to be fairly general agreement, however, that with normal renal function the mechanism of neutrality regulation is very efficient and any excess of alkali is excreted and otherwise compensated for without any disturbance of the acid-base equilibrium. But in patients with disturbed renal function it is not difficult to induce an alkalosis, even when a preceding state of acidosis has existed, as such kidneys may be as inefficient in getting rid of an excess of alkali administered as they were in excreting the normal excess of acid. Alkalosis and tetany have been brought about in certain patients on therapeutic alkaline régimes. Recent experimental work on animals has shown that on highly alkaline régimes blood cells, albumen, and casts may appear in the urine, while with proportionate amounts of acids such conditions do not obtain. Continuously neutral or alkaline urines may also favor the formation of renal calculi. While there is no statistical evidence to prove this contention, at least our renal specialists uniformly attempt to keep the urine acid even to the extent of administering acids as a prophylaxis.

The question also naturally arises as to the final effect on the gastrointestinal tract and the processes of digestion of a continuous neutralization of the hydrochloric acid. If a specific object is to be obtained, such as the control of a peptic ulcer, we may accept certain harmful effects of an alkaline régime, if the cost is not too high, for the sake of the greater good accomplished, just as we do in the use of mercury in the control of syphilis. The use of alkaline waters seems desirable and even benefi-

cial in the acidosis of acute infections, in some acute abdominal upsets with vomiting, in certain bladder and renal pelvic conditions, and for symptomatic purposes in many disorders. But the advisability of their use over a considerable period of time and in many of the more chronic metabolic diseases would seem questionable.

FRED H. KRUSE.

Neurosurgery

LOCALIZATION of Tumors of the Brain—In the early days of surgery of the nervous system the surgeon was purely an operator acting under the guidance of the neurologist, who took the responsibility for the localization of the lesion and for the extent of the operative procedure. Today there are many men who devote most or all of their time to neurosurgery, and, as a result of this specialization, technique has improved and operative mortality is much lower. In a constantly increasing number of patients it is possible to observe gross pathological changes in the living tissues, and to correlate them with the clinical findings. But before a tumor can be exposed at operation it must be localized. The neurologist was at first almost entirely dependent on the history and the clinical findings in making his diagnosis and localization. Valuable help has come from the roentgen ray, and stereoscopic films of the skull now reveal much that was not seen in the old plates. Calcification in tumors is demonstrated quite frequently; it is no longer difficult to determine whether the sella turcica shows pathological changes; proliferation of the skull over a dural tumor may be an ingrowth of new bone, impossible to detect except with the roentgen ray; and localized erosions of the skull are frequently significant.

The most important advance came with the introduction of cerebral pneumograms or ventriculograms by Dandy of Baltimore in 1918. Cerebrospinal fluid is withdrawn from the ventricles, and air is injected in its place. Roentgen rays then give a picture of the ventricular system, because the air casts no shadow. All tumors of the brain which give symptoms of pressure produce distortion or change in the size, shape or position of the ventricles. Dandy says that ten years ago less than 50 per cent of tumors of the brain could be exposed at operation; that now exposure is possible in 65 per cent because of better roentgen rays, better surgery and increased experience; and that all the remaining 35 per cent can be localized by the cerebral pneumogram. Have others been able to confirm this statement? Grant⁴ has collected 392 cases from the records of several neurosurgeons. The method was of value in 311 cases, but in 218 it confirmed a neurological diagnosis, or was unverified, or ruled out a suspected tumor. Ninety-three tumors were localized and exposed at operation solely through the aid of the pneumogram. There were errors of technique in 10 per cent of the cases, and the mortality was 8 per cent. But the mortality of unlocalized tumors is 100 per cent, and of the ninety-three tumors which could not have been local-

4. Grant, Francis C.: Ventriculography, *Arch. Neurol. and Psychiat.*, '24:513 September, 1925.

ized otherwise, forty-four were removed at operation. Grant's figures substantiate Dandy's claims, if we allow for inexperience with a new method. It is fair to conclude that, in the hands of those competent to do a cerebral pneumogram and to interpret the findings, it will reduce almost to the vanishing point the number of tumors of the brain which cannot be localized and exposed at operation.

E. B. TOWNE.

THE increasing number of those specializing in limited fields of medicine and surgery has been a cause of considerable concern to physicians and the public. One outstanding asset of specialization is the impetus given the fund of knowledge in that special field. Progress will be fastest and safest when men concentrate their interests and energy. Before diagnostic and therapeutic measures can be standardized there must be much pioneer work.

The fourteenth meeting of the Society of Neurological Surgeons was held in St. Louis recently. This was an occasion for an editorial in the Missouri State Medical Association Journal. The rapid growth and advance of this specialty are of interest to the profession and laity as well. Only a few years ago surgery of the nervous system was considered an interesting but impractical field, much as the present generation regards cardiac surgery. Twenty years ago a few men, probably less than five in this country, majored their chief interests in this specialty. Today nearly every medical school has a well-organized department of neurological surgery. The pioneers have assaulted barriers of prejudice, inexperience, and technical difficulties almost insurmountable. The ingenuity, skill, courage and tenacity of Horsley, Cushing, Frasier, and others should be an inspiration to future adventures into what appears to be forbidding and unpromising fields.

Surgery was the means of correcting many a mistaken idea regarding abdominal physiology and pathology. This statement can be repeated with added emphasis in the neurological field. Improved technical methods allow cranial and spinal explorations to be carried out with comparative safety. Operative mortality is greatly reduced in spite of more extensive and venturesome surgery. Physicians are stimulated to make an early diagnosis in the tumor or abscess case in the hope of radical cure rather than await the postmortem findings to disprove or substantiate their contention. Correlation of the clinical picture, the operative findings and the microscopic pathology have added tremendous knowledge as regards diagnosis, treatment, and prognosis. Doctors Cushing and Bailey have recently published an extensive monograph on gliomas that is most enlightening. Gliomas formerly classified in one group are now divided as to pathology, and a prognosis can be given with some exactness. There are still wide gaps in our knowledge of this field and great technical difficulties to be overcome. Progress to date, however, would seem to promise much for the future development.

HOWARD W. FLEMING.

Neuropsychiatry

THE Therapeutic Problems of General Paralysis—Kirby and Bunker, in the October number (last published) of the *American Journal of Psychiatry*, present an exceptionally thorough report upon a series of cases of general paralysis treated by malarial infection. Inasmuch as one out of every ten patients admitted to hospitals for mental patients suffers from this dread disease, the mentioned, and many other previously reported, efforts are to be commended. However, it is essential that we correctly evaluate the entire therapeutic problem of the disease.

1. We are evidently obtaining fairly frequent and prolonged apparent arrests in the progress of the disease. Naturally they must be called "remissions" until time justifies other conclusions. These remissions, quite alike in type but perhaps shorter and less common, were seen before the days of malarial and similar therapy—in fact before we knew arsphenamin. They appeared to follow vigorous catharsis; at times they just came—we knew not why. They were interpreted as proof that the bulk of symptomatology rested upon toxic, rather than degenerative, structural, foundation.

2. These remissions would endure for days, weeks, months—rarely for years. Eventually always a renewed fury of the disease made short work of the victim. Only very superficial observers ever claimed full restoration of physical and mental normal during these remissions. Always there could be shown a degree of residual, permanent physical and mental impairment. We find no grounds for assuming the present-day therapy to be fundamentally more effective.

3. One may concede a rare exception, but clinical experience has shown that when the neuropsychiatrist first meets the general paralytic, sufficient cortical neuropathological change has already taken place to make complete restoration of function impossible. With all unaffected tissue restored at that moment the patient would be found permanently lacking in his finer, most valuable mental activity.

4. We are forced to the inevitable conclusion that up to and including our present-day efforts our therapy comes too late. In a measure, perhaps the general practitioner fails to follow his syphilitic patients sufficiently closely to discover the early neurologic (pupillary, etc.) and spinal fluid changes. More likely it is because we know so little of certain important elements of etiology. Why are the syphilitics of certain races (Java, Turkey, Algiers, etc.) almost immune to general paralysis? Why has Croatia and Slavonia of Jugoslavia the average percentage of paretics while the closely related Bosnian neighbor is almost free from it?

What constitutes individual and racial immunity? How may we safeguard the syphilitic from the parenchymatous invasion? Is it not possible that in our anxiety to kill the spirochetes we reduce

rather than build defenses available through correct hygiene and good nutritional standard?

V. H. PODSTATA.

THE Malaria Treatment of Paretic Dementia—It has been noticed frequently that patients with paresis have shown signs of improvement in their mental status during and following an intercurrent infection. For nearly forty years attempts have been made with various fever-producing agencies to arrest the disease, and in 1887 Wagner von Jauregg advocated inoculation with malaria; but only since 1917 has there been a definite effort to treat paresis by this method. Articles have appeared frequently in recent medical literature detailing methods and results. The contributions of Bunker and Kirby in a first report¹ and a second report² are to be mentioned, particularly because of their case discussions. They studied 106 patients of undoubted general paralysis inoculated with tertian malaria. Of these twenty-two died, eleven as a result of the treatment; twenty-six were unimproved; eight were slightly improved; thirteen attained moderate remissions, and thirty-seven full remissions. Wagner von Jauregg's technique is, as follows: "From 1 to 4 cc. of benign tertian malarial blood is injected, subcutaneously or intramuscularly. The patient is allowed to have eight or nine chills, occasionally ten or twelve. Quinin bisulphate is then given in doses of 7½ grains twice daily for three days; then 7½ grains is given once daily for fourteen days. Following the quinin treatment, six injections of neoarsphenamine are given, beginning with 0.3 gm. and increasing to 0.6 gm. one week apart."

McIntyre and McIntyre³ in commenting on inoculation malaria say that "inoculation may be made at any time during the course of the malaria and does not have to be made during or after a chill. A strain may be passed from patient to patient indefinitely. Wagner von Jauregg passed one strain through thirty-seven generations. Some patients are immune to inoculation malaria. Attacks may vary from tertian to quotidian type. Inoculation malaria is very sensitive to quinin. Physical and mental improvement in malarial treated general paralytic persons, go hand in hand. In all possibility inoculation malaria becomes entirely asexual in type and cannot be transmitted by the mosquito." The same observers give the following contraindications for malaria treatment: 1. Rundown general physical condition with circulatory asthenia. 2. Anemia. 3. Kidney lesions. 4. Heart lesions with myocardial degeneration. 5. Patients with a persistent leukocytosis. 6. Meningovascular type of cerebrospinal syphilis with localized lesions is a poor risk because the malaria exaggerates these conditions.

At the University of California Medical School four cases of the expansive type have been treated with successful results. At least three have returned to work. Serologic results apparently vary greatly and cannot be correlated with the therapeutic results.

RICHARD W. HARVEY.

1. Journ. A. M. A., February 20, 1925.

2. Arch. of Neurol. and Psychiatry, August, 1926.

3. Arch. of Neurol. and Psychiatry, August, 1926.

Obstetrics and Gynecology

IS the Dictum "Once a Caesarean, Always a Caesarean" Correct?—The strength of the uterine scar after a section is of vital importance, and yet our methods of judging this strength in a subsequent labor are not always conclusive. In the "high," or classical operation, the incision is made in that part of the uterus which, because of the contractions of the musculature, is constantly undergoing change in volume, a condition which interferes with the maintenance of apposition of the sutures and affects healing. If the sutures are tied too tightly there is a local necrosis of tissue which is already impaired by the process of involution. And, finally, if an infection of the suture line is added to the above factors we have a resulting scar which cannot stand the strain of labor. The frequency of rupture of the scar ranges from 4 to 10 per cent, although Holland, in England, in a large collective review reported that twenty-five out of every one hundred caesareanized women had a rupture in subsequent pregnancies.

More recently the low or cervical caesarean section has become popularized. The advantage of this type of incision is dependent upon the fact that the suture line is in the relaxed inactive portion of the uterus which permits good approximation of the cut surfaces and, therefore, a stronger scar. However, it must be emphasized that this type of operation is done on women usually advanced in labor and in whom the uterus is potentially or actually infected, a factor which markedly influences the healing of the suture line. Moreover, after a cervical section the scar is in that portion of the uterus which in subsequent labor becomes thinned out and stretched. It must be borne in mind that these conditions may offset the advantage of the site of incision. Because of its comparatively recent adoption, the frequency of rupture after the low incision is uncertain, although Witterwald¹ refers to his thirty-five cases of delivery after a previous cervical section in which the incidence of rupture was 3 per cent, and the writer recently operated on a woman whose uterus ruptured early in labor after a former low cervical section. Therefore neither the high nor the low incision can be considered free from the danger of rupture.

What should influence our method of treatment of caesareanized women coming to another labor? In the presence of pelvic disproportion, the correct method is obvious, namely, repeated section.

The following considerations may be of value in influencing our judgment as to choice of delivery. The history of a former febrile puerperium should suggest an infection and faulty healing of the uterine incision. The graphic chart of the woman's convalescence is a good index of the strength of the scar. Irregularity in uterine outline near term should suggest a weakness of the wall and threatening or even actual rupture.

If we decide to permit the woman to undergo a labor, delivery must take place in a hospital, where laparotomy can be quickly performed should the

1. Witterwald: *Zentralblatt für Gynäkologie*, 1926, 50, 592.

indications arise. The woman must be relieved of the strain of the second stage of labor as soon as possible by mid or low forceps, and episiotomy. One successful delivery via the natural channel does not guarantee the scar will not rupture in following labors, and the above precautions must be repeatedly observed.

ALICE F. MAXWELL.

Ophthalmology

THE Eye as an Indicator of Health—The eye holds within its small compass more possible diagnostic information than can be obtained from any other region of the body. Every diagnostician should equip himself with a binocular loupe and an ophthalmoscope, and perfect himself in their uses.

A blepharitis, stys, chalazions, or a chronic catarrhal conjunctivitis frequently denote eye strain, which may be responsible for many nervous and reflex symptoms as well as headaches.

Unusually soft eyeballs occur in diabetic coma. Puffiness of the lids suggests nephritis, trichinosis, or arsenic poisoning. Bilateral exophthalmos is a cardinal symptom of Graves' disease. A protrusion of one eye suggests a cavernous sinus thrombosis or a breaking through of an ethmoid or a frontal sinus. Jaundice of the sclera suggests a common duct obstruction.

Diplopia, except in rare instances, is due to a paresis or a paralysis of one of the muscles that rotate the eye; this paresis or paralysis may involve a single muscle or a group. The sixth nerve supplying the external rectus is the most frequently involved, but the third is frequently involved also, producing a ptosis or a ptosis and a paralysis of all muscles supplied by it. The most frequent cause of these nerve involvements is syphilis or an intracranial hemorrhage. A toxemia will sometimes produce a temporary paresis of one of these muscles.

Scars of the cornea, aside from those produced by traumatism, should be investigated. Scarring from an old interstitial keratitis is due to congenital syphilis. Those due to phlyctenulosis were probably caused by an active tuberculosis in childhood.

The pupil gives us a lot of information. Contraction is brought about by the oculomotor; dilatation by the sympathetic. Morphin causes a contraction, while cocaine poisoning, shock, fainting, causes a dilatation. Inequality of the pupils is a sign to be seriously considered. While the pupils may be congenitally unequal, it is not safe to assume this to be the explanation. Many causes of neurosyphilis produce an anisocoria as the only evidence of abnormality. The well-known Argyll-Robertson pupil needs no comment.

In the use of the ophthalmoscope, always use one drop of a 2 per cent homatropin solution to dilate the pupil. There is no use in trying to look into a room through a keyhole when you can open the door. When the examination is finished, counteract the effects of the homatropin with a $\frac{1}{4}$ per cent eserin.

In examining the fundus, first learn the appearance of the normal fundus. The physician will

be most interested in determining a choked disc. Arteriosclerosis, hemorrhages of the retina, embolism of the vessels and optic atrophy as well as cupping of the disc such as occurs in glaucoma.

Any modern textbook of ophthalmology contains cuts of the different diseases of the fundus, and by getting a mental picture of any given condition it is comparatively easy to make a diagnosis in the well pronounced lesions, leaving the finer points in diagnosis to the oculist.

WILLIAM A. BOYCE.

Orthopedics

FRACTURES of the *Os Calcis*—Crushing fractures of the *os calcis* cause severely crippling, permanent disabilities. Such fractures usually result from landing upon the feet after a fall from a height.

At the moment of impact the malleoli are driven toward the landing surface, the astragalus usually remains intact beneath them and the *os calcis* fractures, impacts and widens in its subastragaloid segment. Rarely it shatters or splits. This discussion will be confined to the depressed, impacted and laterally broadened type of distortion.

Probably both the ball of the foot and the bearing surface of the heel remain stationary upon the landing surface at the moment when the bone gives way downward and inward, between and beneath the malleoli. Pronation of the forefoot, bulging beneath the external malleolus and deflection of the heel upward and outward result in the characteristic deformity.

Treatment should be undertaken with the respect due a lesion which involves two major weight-bearing joints. Immobilizing in plaster, in the position of original deformity, results in severe crippling.

Pins, screws or ice-tongs inserted into the *os calcis*, or a Thomas wrench applied to the heel have been extensively utilized to pull down and realign the posterior fragment. Pull of the calf muscles is overcome by tenotomy or minimized by plantar flexion. Crushing between the jaws of a padded screw clamp or by mallet blows are resorted to to correct lateral spreading. Deformity may be corrected by such measures, but a discouragingly high degree of disability persists.

Disability is due chiefly to painful subastragaloid joint and is associated with loss of useful motion in that joint. Exostosis beneath the external malleolus is a less important factor.

After typical fracture of the *os calcis*, crippling disability can be minimized only by restoring the subastragaloid joint to a useful degree of painless function or by obliterating the joint.

Continued traction applied through caliper tongs so as to overcome the pull of the calf muscles and to restore length and alignment to the impacted *os calcis*, a method of treatment earlier used by Cotton, more recently perfected by Bull, does recover a definite percentage of fractured *os calcis* with relatively painless and movable subastragaloid joints. Notwithstanding such traction is by far the best

conservative treatment yet devised, results from its use are often disappointing.

Lateral impaction by screw-clamp or by mallet blows is not to be recommended, because such treatment almost always exaggerates the damage to the subastragaloïd joint. Wrenching the heel forcibly into alignment is open to the same objection, though to a lesser degree.

Arthrodesis of the subastragaloïd joint is a recently recognized treatment for such fractures. Boston orthopedic surgeons, notably Philip Wilson, have been using this operation with remarkably good results for several years.

Certainly many typical fractures lose all useful motion in the subastragaloïd joint when treated by any method now in use. Crippling pain is associated with the otherwise negligible motion which remains. This pain can be cured by arthrodesis, with radical removal of exostoses from beneath the malleolus. Deforming malalignment may be corrected during the same operation.

Lateral movement at the ankle depends upon the integrity of the subastragaloïd joint. Since man has come to walk nearly everywhere, upon level floors and pavements, he does not need his subastragaloïd joints so much. Nevertheless, loss of this joint means a real disability, especially to workers who are constrained to stand or walk upon uneven or unstable surfaces. No joint should be needlessly sacrificed.

Some subastragaloïd joints may be recovered by the traction treatment, and it is often not possible in a recent fracture to see whether or not the subastragaloïd joint is too badly damaged to regain useful function. Where there is reasonable hope of recovery, primary treatment should be conservative, with the thought in mind that failure still leaves opportunity to save the day by arthrodesis.

The treatment of choice for the recent os calcis fracture with hopeless damage to the subastragaloïd joint and for all other cases where a painful subastragaloïd joint remains after conservative treatment is arthrodesis.

E. W. CLEARY.

Physiology, Biochemistry, and Pharmacology

SIGNIFICANCE of Cis-Trans Isomerism in Antisepsis and Other Biological Phenomena—Aside from the purely chemical differences between inorganic and organic compounds, there is a marked difference between them when the effects upon the living organism are considered. For example, arsenic is toxic in some degree regardless of its mode of chemical combination provided it can be rendered soluble and therefore absorbable. This is not the case, however, with carbon, oxygen, hydrogen, and nitrogen. The biological effects of organic substances do not depend upon the kinds of atoms constituting the molecule, but rather upon the number and arrangement of the atoms within the molecule. The formula $C_2H_4O_2$ is the same for both acetic acid and methyl formate, but a different grouping of the atoms is responsible for the differences in their properties. The ordinary articles of food on the one hand, and substances having marked

toxic properties on the other hand may have the same ultimate composition, but they differ with respect to the numbers and positions in the molecule of the same kinds of atoms, and in their behavior toward the living organism.

The most outstanding example of the dependence of biological effects upon spatial arrangements of the atoms within the molecule is found in optical isomerism. Pasteur was the first to demonstrate the biological difference between the laevo- and dextro-rotatory forms of tartaric acid. Since then the biological importance of optical properties in organic substances has been repeatedly shown. In recent times Cushny has demonstrated their importance in the pharmacology of the atropine group. Most of the organic compounds occurring in nature are laevo-rotatory, or when both forms occur the laevo usually predominates over the dextro. In fact, life seems to be in some way intimately associated with or dependent upon laevorotation.

The type of spatial arrangement of atoms discovered by Pasteur depends upon the presence of at least one asymmetric carbon atom within the molecule, and represents only one kind of isomerism in organic compounds. There is no *a priori* reason for believing asymmetric carbon isomerism to be the only type of isomerism having biological significance.

The recent investigation of Cooper and Edgar¹ may well be the starting point of fruitful studies upon the relation of other types of isomerism to medicine, and to biology in general. These workers studied the cis-trans type of isomerism, which is well illustrated by maleic and fumaric acids:



Maleic acid represents the plane-symmetric, maleoid, or cis-form, and fumaric, the axial-symmetric, fumaroid, or trans-form.

It was shown that although maleic acid (the cis-form) was the stronger acid, fumaric acid (the trans-isomer) was the stronger germicide for a variety of organisms *in vitro*. The same relationship held for the methyl homologues indicating that the configuration of the molecule was a more important factor than the hydrogen-ion concentration (acidity) in determining bactericidal power. Similarly, the trans-acids exhibited a greater inhibitory effect upon the activity of the ferment diastase, a greater accelerating action upon the digestive power of pepsin, and were more efficient as protein precipitants than the cis-acids. These properties may explain the relative bactericidal action of these two isomeric forms, and also differences in their efficiency as irritants. It is of practical interest to note that although fumaric acid is said to be less toxic than maleic acid to higher animals, it is a stronger disinfectant.

The work is indeed suggestive to say the least, and it is to be hoped that the next step, namely the application of the various factors to antisepsis *in vivo*, will soon be undertaken. Applications in pharmacology and therapeutics also come to mind,

1. E. A. Cooper and G. H. Edgar: The Biological Significance of Cis-Trans Isomerism, *Biochem. J.*, 1926, 20:1060.

for a consideration of isomerism in its various forms may aid the further correlation of chemical structure with physiological action, and therefore give a more fundamental conception of drug action. This, it may be hoped, will materially assist in making therapeutics more rational and scientific.

FLOYD DE EDs, PH.D.

Proctology

THE treatment of hemorrhoids as indicated in current literature presents little novelty. On the whole, the prevailing opinion is that prolapsing and prolapsed hemorrhoids should be surgically removed, while others giving symptoms (mainly bleeding) may be treated with injections. The subject is fully elaborated in a recent book by J. F. Montague.¹ For injection he prefers, as does the writer, a 20 per cent solution of phenol in glycerine using 3-5 minimis for each hemorrhoid and injecting one or two hemorrhoids at a time. Others use a 5 per cent solution of urea and quinin hydrochloride and others again 95 per cent alcohol. The hemorrhoidal masses should be made to tumefy themselves within the rim of a Kelly's proctoscope assisted by the patient endeavoring to extrude them. Each is then sharply punctured by a hypodermic needle carrying the fibrosing fluid and the necessary amount injected. There is no pain unless the fluid is injected beneath the anal mucosa, when it may be very severe. Bleeding always may be stopped by this method and mild prolapse at stool prevented. On an average four injections into each hemorrhoid will suffice to bring about shrinkage. There is no interruption in the patient's activities.

Pennington² insists on his "open" operation. A small incision is made through the mucous membrane over the everted hemorrhoid, the "varicosity protruded" and "radically removed." This method, however, does not provide for the obviously redundant mucous membrane which has become part of the prolapsing varicose mass. Apart from Pennington's method, the ligature and excision method appears that most universally accepted. The Saint Mark's Hospital, London, plan is, without divulging the sphincter, to seize each hemorrhoid, draw it downward and to incise at the ano-cutaneous margin upward for half an inch or so. The incision is in the cellular tissue and separates the mucous membrane with varicose veins internally from the sphincter externally. Braided silk is tied tightly around the upmost limit of the separated hemorrhoid, which is then cut off beyond the ligature. The ligatures slough off in a week's time. The operation takes ten minutes. There is little bleeding and the wounds are not sewn up.

New statistics are available on the occurrence of cancer in the colon. Patterson and Brown³ give 91 cases in the pelvic colon and 22 and 19 in the cecum and splenic flexure respectively in a series of

171 cases. These exclude any that might possibly be thought to arise in the rectum. Walker⁴ states that 60 per cent occur in the rectum and 20 per cent in the iliac and pelvic colon. A. H. Burgess⁵ in 485 cases gives 46.5 per cent as occurring in the rectum and 29.4 per cent in the sigmoid colon. Seventy-five per cent of these were too extensive for radical operation, a tacit criticism of those who first see patients with colonic symptoms. In this large series 35.6 per cent were associated with acute obstruction and of these 86.7 per cent occurred in the left half of the colon. Thus "there is a 6.5 to 1 chance of a malignant growth that has caused obstruction being on the left side." The fact that more than one-third of cancers of the large bowel are associated with acute obstruction demonstrates that both in operable and inoperable cases procrastination is not permissible before an opening, either palliative or in the course of radical surgery, is made to drain the bowel above the diseased area.

M. S. WOOLE.

Radiology

RADIATION Therapy in Its Relation to the Cancer Problem—A well-known authority is quoted to the effect that about 10 per cent of cancer patients, excepting the skin varieties, are curable by surgery, which means that in communities where competent surgical aid is available, 10 per cent of all classes of cancer (skin cancer excepted) recover if submitted to surgery, and may be considered surgical cures. On the other hand, a classification of radiation therapy in the same analysis appears equally favorable, if not more so. Most of the radiation therapy results, on which we have reasonably reliable data, cover carcinoma of the breast and uterus. If we limit our surgical cures to these two fields the percentage would unquestionably increase, perhaps, to 15 or 20 per cent. Similarly if we limit our investigations on radiation cures to the same classification, and take statistics of such cases as are treated in acceptable institutions by x-rays and radium, the clinical cures vary from 20 to 25 per cent. In some outstanding clinics where exceptional skill in the use of radiation therapy is manifested, clinical cures run up to 30 per cent. Of course the favorable increase here is undoubtedly largely influenced by the preponderance of uterine cases over those of the breast.

Whether or not an intelligent cooperation between surgeons and radiologists, and the combined use of these agents in the field under discussion will materially increase the clinical cures, must be, in the light of experience, answered in the affirmative.

It appears that surgery, from a mechanical standpoint at least, has well-nigh reached perfection and it is difficult to visualize any drastic change from present technique either in application or results from this agency alone.

Radiation therapy, however, is still open to further study and development sufficient to warrant

1. Modern Treatment of Hemorrhoids by J. F. Montague. J. B. Lippincott, 1926.

2. Hemorrhoids. J. Rawson Pennington. J. A. M. A., December 18, 1926.

3. Cancer of the Colon, Patterson and Brown. Edin. Med. J., 1926, 33, 10.

4. Cancer of the Colon, Walker. Glasgow, Med. J., February, 1926.

5. Cancer of the Gastrointestinal Tract. A. H. Burgess, B. M. J., January 1, 1927.

our belief in a more hopeful future. The question of the proper combination of surgery and radiation is also still an open one, and this refers particularly to whether or not one is justified in removing a carcinoma of the uterus which, from all external appearances, has been thoroughly fibrolized by radiation. The same query may be directed toward a primary cancer of the breast after an apparently successful fibrolitic state is produced by radiation. In such conditions an open consultation is the best course to pursue, and the problem of procedure must be left to the conscientious surgeon to decide.

We believe that all cases of cancer which are not strictly superficial and where a reasonable expectation of a successful surgical removal can be assured, should have a proper course of radiation treatment first. This seems to us to be highly desirable.

ALBERT SOILAND.

Surgery

THE Los Angeles Plan for Postgraduate Study—The Los Angeles County Medical Association has formed a new Clinical and Statistical Section. It comes under the same regulation as other sections, and any member of the County Association is eligible to membership in the section.

A circular is issued daily giving a list of the operations and operating surgeons, or of clinics held in any line of medicine or surgery. All accredited hospitals are cooperating with the section and can have a listing of work done in such institutions as appear in the daily bulletin that is sent to each member of the County Medical Association.

The interests of the section are safeguarded by a board of seven directors. An Advisory Committee to the Board of Directors is composed of a representative chosen by each cooperating hospital. The objects of the section are both immediate and remote.

Among the more immediate benefits sought are those resulting from seeing the work of others. All physicians are invited to see any of the operations, surgical or medical clinics listed. It is hoped that visiting physicians, while in Los Angeles, will avail themselves of this opportunity to see the line of work in which they are interested.

Members of the profession in near-by sections of California or other states, when visiting Los Angeles for longer or shorter periods, are invited to avail themselves of postgraduate work thus offered. The plan also stimulates and encourages the best efforts on the part of those responsible for operations and clinics.

Among the remote benefits expected from the plan are larger, more accurate and consequently more valuable statistics. These statistics will be collected from all the work done in the cooperating hospitals, recorded in code by a punching machine, and give a reliable record.

After a period of months or years any member can in a few moments, by use of the sorting machine, have all his cases, upon any subject, before him. No member can obtain another member's individual record, but the combined statistics from all the hospitals can be obtained by any member without ob-

taining the names of the physicians from whose service the statistics were compiled.

The plan has many advantages, great possibilities, seems eminently fair to all and disadvantageous to none. It has been in operation for a few months. The early difficulties incident to prompt delivery of the listing are being overcome, and visiting practitioners are invited to take advantage of this opportunity for postgraduate observation.

FOSTER K. COLLINS.

TREATMENT of Acute Peritonitis—Acute peritonitis was first well described in 1314 as the "Iliac Passion." Since that such names¹ as Thomas Willis, Brithat, Travers, Thomas Sutton Treves, Mescatello, Fowler, and J. C. Murphy are distinctly associated with the progress in the understanding of this condition. The present mode of treatment is to a large extent that outlined by J. B. Murphy—sitting-up position, no food by mouth, saline per rectum, drainage of the peritoneal cavity, and administration of aperients.

Today we emphasize the need of fluids. The value of sodium chloride preparations is evident and subcutaneously these can be given, preferably, on the inner or outer sides of the thigh or under the breasts. Glucose solution, 5 or 10 per cent, intravenously supplies not only needed fluid, but also valuable nourishment. The amount of fluid for the average adult should total between 2800 and 4000 cc. per twenty-four hours. NaCl or Ringers can be given in 1000 cc. amounts subcutaneously at one time. Properly prepared glucose solution, 10 percent, preferably 700 cc. at a time and the infusion consuming a period of forty-five minutes can be employed two or three times daily. With this type and amount of fluid intake, the death rate in acute peritonitis has dropped 5 to 10 per cent.

The large proportion of so-called acute peritonitis are in reality local peritonitis with a more or less complete paralytic ileus above. Handley² has demonstrated this in postmortem studies. The seriousness of peritonitis is not the infection *per se*, but the result therefrom of a potential intestinal obstruction. All physicians know that distention, vomiting and dehydration are the prominent features of clinical peritonitis. These symptoms are none other than a potential intestinal obstruction, and if death ensues, the end is similar to that from wound or surgical shock or a proteose intoxication and is due to the marked toxicity of the upper intestinal content as demonstrated by Whipple.³

Transduodenal or even gastric drainage and lavage, in order to remove this toxic proteose material, improves the condition of the patient tremendously. A drainage tube fashioned after the Jutte⁴ tube passed through the nostril and left in situ for twelve to ninety hours with continuous and later judiciously interrupted drainage will show another

1. Carlson, H. W.: The Evolution of the Modern Treatment of Septic Peritonitis, *Lancet*, May 19, 1923, 1035-37.

2. Handley, W. S.: Acute General Peritonitis and Its Treatment, *Brit. Jour. Surg.*, January, 1925, 12, 417-34.

3. Whipple, G. H.: Intoxication of Intestinal Obstruction; Collected Reprints from G. W. Hooper Found. of Med. Res. 5, 1919-20, 15th paper.

4. Jutte, M. E.: Transduodenal Lavage, etc., *New York Med. Jour.*, March 16, 1912, 95, 543-44.

gain in lessening mortality as great as that shown by the previously mentioned use of fluids. The use of this tube for postoperative or toxic vomiting, beginning dilatation of the stomach, postoperative ileus or intestinal obstruction will be found to be the most useful new procedure of the day. Bassler⁵ said in addressing the Southern Surgical Association: "If I leave no message with you but the use of transduodenal lavage in postoperative ileus, I feel that my paper has not been in vain. Its employment is of distinct advantage and will bring happiness to you."

The recognition that the serious symptoms of peritonitis are those of a potential intestinal obstruction, the employment of fluids subcutaneously and intravenously in 2800 to 4000 cc. amounts in twenty-four hours and the use of the Jutte tube for upper gastrointestinal drainage and lavage marks a new era of progress in the treatment of acute peritonitis.

JOHN HOMER WOOLSEY.

Tuberculosis

IN a masterful summary of our knowledge of many important phases of tuberculosis at the fifth conference of the International Union Against Tuberculosis recently, Krause¹ brought out that tubercle is the anatomical response of the body to tubercle bacilli, and may be conceived as of two types: (a) nodular tubercle, which represents the native anatomical response of the tissues, and (b) non-nodular tubercle, representing an anatomical response acquired as the result of the previous formation of the nodular tubercle.

Tubercle bacilli, continued the speaker, are sluggish in development. They contain proteins, and combined with them a high content of lipoids, the chief of which is a very refractory wax. By virtue of these lipoids they are very resistant to outside agencies.

When they settle in the tissues for the first time the tissues react to their presence by forming nodular tubercle, which is their native method of dealing with foreign bodies which they cannot dispose of by direct disintegration. Because of the insolubility of the lipoids, tubercle bacilli act as foreign bodies in the tissues. Nodular tubercle is therefore a protective and conservative process, serving to wall off the tubercle bacilli and set them apart from normal tissues—encapsulation and fibrosis—and also confine the products of the breaking down of cells within itself.

The outstanding processes in tubercle formation are the multiplication of the fixed cells, particularly the epithelioid (connective tissue) type, and the formation of a fibrous tissue capsule. In the 90 per cent and more of tuberculous infections which do not become active it performs the function of pro-

5. Bassler, A.: The Use of the Duodenal Tube, etc., South. Med. Jour., January, 1919, XII, 4-7.

1. Allen K. Krause, Associate Professor of Medicine and Director Kenneth Dows Laboratories, Johns Hopkins University; Editor, National Review of Tuberculosis; Associate Editor, Journal of the Outdoor Life (address on the Anatomical Structure of Tubercle from Histogenesis to Cavity before the fifth conference of the International Union Against Tuberculosis at Washington, October 1, 1926).

tection successfully. Nodular tubercle evolves slowly out of the proliferation of cells in situ. The tissues form nodular tubercle around living or dead tubercle bacilli, or even nonbacterial foreign bodies, and structurally and anatomically it constitutes tuberculosis, but is not dangerous because powerless to spread unless the tubercle bacilli are living. It is a reaction to the *lipoids* of the bacilli.

With the presence of tubercle bacilli in the body, as represented by the establishment of nodular tubercle, the tissues acquire a new and added method of reacting to tubercle bacilli. This new capacity of tissue reaction is to the *proteins* of the tubercle bacilli, and the changed condition of the tissues is called *tissue allergy* or *tissue hypersensitivity*, the reaction elicited being the *allergic reaction*. The allergic reaction brings about diffuse tissue changes—those of acute inflammation.

(The phenomena of allergy are best demonstrated by the intracutaneous inoculation of a guinea-pig with virulent tubercle bacilli. In the normal (non-allergic) animal there is a slight inflammation at the site of inoculation, which subsides in a few hours. About the seventh day a papule appears, which develops into a well-defined nodule about the fifteenth day, and is followed by ulceration. In the previously infected (allergic) guinea-pig the initial inflammation persists and increases for several days. Nodule formation takes place in four to five days, being fully developed by the tenth day. If the dose be sufficiently large, necrosis and ulceration take place in two to four days after inoculation. These phenomena are the basis of the tuberculin reactions.

(It has been shown² that allergy exercises a striking effect on the rate of dissemination of tubercle bacilli. Following their intracutaneous injection into normal guinea-pigs, the regional lymph glands are involved in twenty-four hours or less. In the allergic guinea-pig most of the bacilli are permanently fixed at the site of inoculation because of the prompt inflammatory reaction, and the glands are not involved for at least four days. C. C. B.)

CHARLES C. BROWNING.

THREE are few situations which the physician has to meet that so tax his therapeutic ingenuity as laryngitis in a patient already burdened by a long and wearing battle with lung tuberculosis.

Homer van Horne¹ lays great stress on the use of voice rest in the treatment of this most distressing complication.

"The most important measure to be insisted upon," he says, "is absolute voice rest from the beginning and regardless of the extent of laryngeal involvement.

Absolute voice rest does not mean merely refraining from using the spoken voice; it means silence. Whispered words are often as great a strain on the larynx as the spoken voice and sometimes more so. Such patients are apt to be loquacious and they

2. Willis: Am. Review Tb., 1925, XI, pp. 427, 439.

1. Some observations upon the treatment of laryngeal tuberculosis, U. S. Veterans' Bureau Medical Bulletin, November, 1926, p. 1027.

must be cautioned not only against speaking, but against whispering as well, and supplied with paper and pencil with which to communicate with their attendants.

The successful treatment of tuberculous laryngitis requires that the condition should be recognized early. As in all tuberculous manifestations, a late condition is often an incurable one and a constant watch must be maintained in all patients with lung tuberculosis to make sure that the earliest involvement of the vocal cords shall be recognized and combated.

In addition to voice rest, cleansing sprays and local anesthetics are of value for advanced ulcerative laryngitis.

Heliotherapy is of great value, but the dose of sun rays must be as carefully controlled as the dose of tuberculin if a good effect is to be produced. Great care must be used that the period of insolation does not produce too great reaction and that sufficient time elapses before the next exposure for the reaction to subside.

Blocking the superior laryngeal nerve in those patients whose severe pain prevents swallowing is simple and, I believe, should be tried in all patients in whom other means fail to overcome the painful deglutition. It is successful in only 50 per cent of cases in which it is attempted, but relief is wonderful when the nerve can be located and anesthetized.

Another procedure that often relieves the pain of swallowing is for a trained person to stand behind the patient and at the moment of swallowing to make firm and even pressure forward on the angle of the jaws.

Or the patient may take the so-called Wolfenden's position while eating. That is, he lies prone upon the bed with his head hanging over the side and sucks his nourishment through a tube from a glass placed on the floor.

Too often the progress of the disease cannot be controlled when it is discovered late, but the most distressing symptom, pain on swallowing, can usually be relieved in whole or in part by the use of some of these measures.

LEWIS SAYRE MACE.

THE Veterans' Bureau and Tuberculosis— Regulation No. 150 by the United States Veterans' Bureau relative to the rating of disability from arrested tuberculous disease states that "an ex-service person shown to have had a service-connected tuberculous disease of a compensable degree, who is found to have reached a condition of complete arrest of his disease, will receive compensation of not less than \$50 per month." Inasmuch as it is still possible for an ex-service person to obtain compensation for tuberculous disease not previously service connected, provided he or she obtains affidavits from physicians stating that such disease existed in an active form prior to January 1, 1925, this regulation should possess some interest for physicians.

When approached for an affidavit of this type one should bear in mind that he may be dealing with an individual anxious to have a diagnosis of tuberculosis. This is exactly the reverse state of

mind of the ordinary private or clinic patient. It is also well to remember that in the desire to make diagnoses of tuberculosis early one is sometimes tempted to give this diagnosis on insufficient evidence. Thus a slight elevation of afternoon or evening temperature without other discoverable cause is sometimes the only basis for a diagnosis of tuberculosis.

Loose diagnoses of this sort, always deplorable, are particularly damaging in ex-service people. It not only tends to produce an undesirable psychic state in the patient, but may work a grave injustice to the government. The latter, particularly, since the issuance of regulation No. 150 assures a degree of permanent disability not previously existent.

Another point which should make one careful in this matter is the well-known fact that a negative physical examination and roentgenogram may not justify the most skillful observer to state that true tuberculous disease never has existed.

In general, in dealing with questions of this sort it would seem wise to apply the criteria of the Saranac group that one or more of five major points are necessary in diagnosing true clinical pulmonary tuberculosis: 1. Sputum positive for tubercle bacilli. 2. A *substantiated* history of hemoptysis of a drachm or more without other discoverable cause. 3. Pleurisy with effusion or a *substantiated* history of dry pleurisy not occurring during an epidemic of respiratory disease. 4. The characteristic rales of pulmonary tuberculosis. 5. Parenchymatous lesion by x-ray.

To which might be added: spontaneous pneumothorax without other discoverable cause.

SIDNEY J. SHIPMAN.

If all illness is to be carried without question by the community, it will often be very hard to decide just where health stops and sickness begins. Few are 100 per cent ill, and none of us are 100 per cent well. Every doctor knows that in hard times especially, a differential diagnosis has often to be made between sickness and unemployment, or sickness and imagined sickness, or sickness and a chronic disinclination for work, or sickness and some complex of circumstances that sickness would provide a welcome escape from. It is wonderful what persistence and ingenuity will do in establishing a malingerer as a public charge. Men of not much health, but plenty of "gumption" will work every day, while men of better health but less "gumption" have meals served them in hospital wards. The work of the world is done by people less than 100 per cent well and always has been.—*Canad. M. A. J.*

In the face of ubiquitous talk about the lengthening of the span of life, Doctor Nicoll does well to remind us that it is the maintenance of health, rather than mere longevity, to which we should aspire. Life itself is worth little when our usefulness has ceased. By making health, rather than sustained existence, our goal we build not only for a longer life, but for a fuller and richer one as well. This is the ultimate ideal of public health.—*New York Med. Week.*

The medical profession is a combination of individuals having marked energy, considerable ability, and good average educational attainments. We have accomplished much in the past few decades, and in the years to come there is no doubt we shall continue to drive forward and become more efficient through the inspiration of the men who are to be our leaders.—*Medical Standard.*

MEDICAL ECONOMICS, ORGANIZATIONS AND AGENCIES

All over the United States there comes the cry from the ranks of the regular medical profession of the tendency toward state medicine and of the infringement of state medicine upon the rights and privileges of the individual doctor. That this condition actually exists admits of no denial. The situation must be faced and some remedy for it devised.—J. Shelton Horsley, *Virginia M. J.*

By the extension, through the World War Veterans' Act of 1924, of the privilege of hospitalization and medical and surgical care to all veterans of all wars since 1897, no matter what may be the nature of their disabilities and without regard to their origin, nearly five million men were potentially pauperized at a single stroke. Here we have a federal government not only planting the germs of State Medicine in our body politic and entering directly into competition with private practitioners and private hospitals, but embarking on a course of paternalism that is bound to foster a flabby and spineless citizenship, which may prove to be the seed of national decay.—Leslie L. Bigelow, *W. Virginia M. J.*

"I recommend that the Board of Registration in Medicine be given discretionary powers to pass upon the qualifications of medical schools so as to protect our citizens from unqualified practitioners. I further recommend an increase in the penalty for illegal practice. Persons found guilty of this offense have resumed the practice of medicine. An increased penalty will have a deterring effect."—From the message of the Governor of Massachusetts to the 1927 Legislature.

Massachusetts is building a new and enlarged antitoxin laboratory to furnish toxins and antitoxins free to all citizens. Its services will be available alike to all doctors of medicine.

There are two chief ways to make medical paupers: furnish free medical attention to people who are able to pay the regular or a moderate fee thus destroying their sense of independence; or charge them fees beyond their ability to pay. The patient who is able to pay a moderate fee, but who through fear of an excessive one is driven to a free clinic is prone to conclude it is useless in the future to make any provision to pay for medical services. Furthermore he encourages his neighbor of similar or even better circumstances to follow his example.—S. D. Van Meter, *Colorado Med.*

Chicago Department of Health: Report for 1923-24 and 1925, by Herman N. Bundensen, Commissioner.

This book of some 900 pages is a remarkable document differing in the manner of presentation of relevant matter from the usual formal uninteresting method usually characteristic of public documents. For this all readers will be thankful.

Since W. A. Evans, a former commissioner, initiated the policy of utilizing publicity as an agency of public health, Chicago has employed this weapon more effectively than any other great urban center with which we are familiar.

The most interesting feature of the book under review is the explanation of the methods by which this form of propaganda has been developed. That it, as well as the more usual procedures, has been used to advantage, seems to be justified by a mortality rate in the second largest American city of a little over eleven.

Another striking feature of the book is the frank revelation of the enormous extent to which the official public

health service has taken over the private practice of personal health medicine.

One might easily gather from reading the report that the government was the chief, if not the only, factor engaged in saving lives in that vast city; but we suspect that personal health doctors there, as elsewhere, had quite a lot to do with comforting and prolonging the lives of quite a few of the citizens.

Like most government documents, it deals largely with the history of things long since cold or forgotten, and for some curious reason fails to cover the period of time in which people are still interested.

The Travers Surgical Company have extended their well-known service to doctors by opening a store at Fresno, this in addition to the stores at San Francisco and Oakland. The Fresno store is located at 1534 Van Ness Street, and is in charge of Mr. George Miller and Mr. William Bryant. The same high-class service will be rendered in this new store that characterizes the Travers Company's stores elsewhere.

Revised Statistical Methods—A step has been recently taken by the San Francisco Department of Public Health, writes W. C. Hassler, Health Officer, which, given the cooperation of all physicians of this city, will mean much in both the fields of medical research and public health administration. That step is the installation and use of electric tabulating machines for recording births and deaths.

This will make available to physicians and officials of the department an infinite variety of data for studies of natality and mortality, for all the data contained on the certificates is punched upon cards from which any combination of the data may be obtained. Studies by age, sex, nativity, place of death, contributory cause of death, duration of the disease, etc., will be made for each disease and will cover a long enough period of time to insure sufficient cases being analyzed to make the results and the conclusions therefrom reliable. One feature of the studies will appeal especially to physicians—they will be made by assembly districts, so the incidence of fatal diseases may be localized geographically, as well as by sex, age, occupation and, so far as possible, by nationality.

In order that this data and the studies made from it be of the greatest possible accuracy and value it is desired that physicians cooperate to the fullest extent by giving complete accurate answers on birth and death certificates. The health department particularly desires the duration of the disease causing death and the home address of the mother in deaths of very young children and of stillbirths.

Stillbirths are also being studied most carefully in the hope that their incidence may be reduced. For this reason it is asked that the causes of the stillbirth and the approximate age of the fetus be given in each instance.

Service, a word which has been given real meaning by the accomplishments of medicine since the days of Francis of Assisi a thousand years ago, has become almost a byword engendering suspicion in these latter days when it has been so freely adopted by industry to stimulate consumption. Preceded by the magic word "social," it has become a kind of sugar-coated pill through which well-meaning or designing upholders, volunteer or professional, narcotize the thought-processes of the charitably minded or the taxpayer into the acceptance of programs which look well enough on their face, but which often enough are full of unappreciated evil potentialities.—Leslie L. Bigelow, *W. Virginia M. J.*

Success is to man an ever receding goal, and by his own measurement too seldom attained. In the eyes of others he may have succeeded, envably succeeded, but to himself the attainment of today has no longer the value of yesterday. His goals are shifting, his values changing, and his horizon broadening. The spirit of unrest is upon him while larger rewards are still visible and he must keep his nose to the grindstone, his foot on the treadmill so long as ambition draws from before and necessity pushes from behind.—*Boston M. and S. J.*

CALIFORNIA MEDICAL ASSOCIATION

W. T. McARTHUR, M. D. President
 PERCY T. PHILLIPS, M. D. President-Elect
 ROBERT V. DAY Vice-President
 EMMA W. POPE, M. D., San Francisco Secretary and Associate Editor for California

ANNUAL MEETING

The annual session of the California Medical Association will commence this year on Monday, April 25. Northern members may motor down with their families on Saturday or Sunday or go by train or boat. Those going south by train or boat may take advantage of the appended schedules of rates and time.

Headquarters are to be at the Los Angeles Biltmore Hotel, Fifth and Olive streets, Los Angeles. All members who intend to attend the 1927 meeting should make their hotel reservations early with Mr. Michael A. Reardon, office manager of the Los Angeles Biltmore, who will confirm such reservations direct with the physician. The state office handles no reservations whatever. The rates are as follows: (Each and every room has its own bath.)

Single rooms: \$5 to \$8.

Double rooms: Equipped with twin beds, \$8 to \$12.

Convention Rates

The question of securing a convention rate on the Southern Pacific lines was considered by the Executive Committee. It was pointed out that round trip tickets sold on Friday, Saturday and Sunday from all points in California and on every day of the week from San Francisco, Oakland, Alameda and Berkeley will be *lower* at the date of the annual meeting than the convention rate ticket. Therefore, only those members leaving for the Los Angeles meeting later than Sunday from points other than San Francisco, Oakland, Alameda and Berkeley would be benefited by an Identification Certificate ticket.

After consideration, it was the sense of the Executive Committee that the number of members who might avail themselves of such a rate would be too limited to warrant the printing and handling of convention rate tickets.

Below are scheduled the round trip ticket on the Southern Pacific and on the Los Angeles Steamship Company:

Southern Pacific Rates and Time Table

Members who want to secure advantage of party rates should communicate with Mr. C. E. Paine, Southern Pacific Passenger Agent, 49 Geary Street, San Francisco.	
Sixteen-day ticket.....	\$25.00
Three-months' ticket.....	30.00
Identification certificate.....	25.56
Party rate of 15 to 99 going on same train and returning individually within fourteen days.....	22.75
Party of 100 or more going on same train, and returning individually within fourteen days.....	17.05
Lower berth.....	4.50
Upper berth.....	3.60
Compartment.....	12.75
Drawing room.....	16.50

THIRD AND TOWNSEND STREETS

Lark—Leaves San Francisco 8 p. m., arrives Los Angeles 9:25 a. m. Leaves Los Angeles 8 p. m., arrives San Francisco 9:30 a. m.

Sunset Limited—Leaves San Francisco 6:15 p. m., arrives Los Angeles 8:10 a. m. Leaves Los Angeles 6:15 p. m., arrives San Francisco 8:10 a. m.

Coaches—Free observation. Leaves San Francisco 7:45 a. m., arrives Los Angeles 7:45 p. m. Leaves Los Angeles 7:45 a. m., arrives San Francisco 7:45 p. m.

Parlor Car—Leaves San Francisco 8 a. m., arrives Los Angeles 10:45 p. m. Leaves Los Angeles 8 a. m., arrives San Francisco 10:45 p. m.

FERRY BUILDING

Owl—Leaves San Francisco 6 p. m., arrives Los Angeles 8:50 a. m. Leaves Los Angeles 6 p. m., arrives San Francisco 8:50 a. m.

Padre—Leaves San Francisco 8:20 p. m., arrives Los Angeles 9:35 a. m. Leaves Los Angeles 7:45 p. m., arrives San Francisco 9:30 a. m.

SACRAMENTO

Leaves Sacramento 5:30 p. m., arrives Los Angeles 8:30 a. m. Leaves Los Angeles 6:05 p. m., arrives Sacramento, 9:10 a. m.

Los Angeles Steamship Company

Los Angeles Steamship Company, 685 Market Street, San Francisco. Telephone, Davenport 4210.

Return trip \$25. Fare includes berth and meals.

Yale or Harvard—Leaves San Francisco, Pier 7, 4 p. m., Friday and Saturday, April 22 and 23, arrives at Los Angeles, Pacific Electric Station, Sixth and Main streets, 11 a. m. the next day. Leaves Los Angeles, Pacific Electric Station, Thursday, Friday and Sunday, April 28 and 29 and May 1, at 3 p. m. the next day.

CONTRA COSTA COUNTY

An interesting but poorly attended meeting was held by the Contra Costa County Medical Society, January 29, 1927, at Richmond. J. M. McCullough of Crockett presided.

A very instructive paper on "Head Pains" was given by J. S. Baxter of Oakland.

A motion sanctioning a goiter survey of the high school children of this county by Hans Lissner of San Francisco was passed unanimously.

Doctor Rowell of Crockett moved a resolution be passed opposing the curtailment of teaching of evolution. The resolution read:

"Resolved, That the Contra Costa County Medical Society expects its representatives in the legislature to definitely oppose any proposed legislation limiting the teaching of science in any of its branches."

The resolution was unanimously passed.

Among those present were Leo R. Bell and Eric E. Larson of the Woodland Clinic. Doctor Bell spoke with interest and enthusiasm of the Clinic work. The society was pleased to have these visitors and hopes to have them again.

Refreshments were enjoyed after adjournment.

S. N. WEIL, *Secretary*.

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MERCED COUNTY

Merced county physicians met at El Capital Hotel for the regular meeting of the Merced County Medical Society. George K. Rhodes of the San Francisco City and County Hospital was the speaker. F. O. Lien, president, was in the chair.

Following the talk by Doctor Rhodes, the members joined in a discussion of medical problems. The next meeting will be held on the west side, probably in Dos Palos.

H. KYLBORG, *Secretary*.

PLACER COUNTY

The Placer County Medical Society held its regular meeting in the Masonic Hall, Auburn, February 12, 1927, being called to order by President J. A. Russell.

The following members and visitors were in attendance: Members—J. A. Russell, G. H. Fay, R. J. Nicholls, F. L. Fanning, C. J. Durand, R. H. Eveleth, E. E. Myers, M. E. Thoren, W. L. Whittington, R. F. Rooney, R. A. Peers, M. Dunievitz, C. E. Lewis, L. B. Barnes. Visitors—T. C. O'Connor, W. Wheeler, F. F. Gundrum, N. G. Hale, W. M. Miller, C. C. Briner.

C. Conrad Briner and Monica Stoy Briner of Lincoln and William M. Miller of Auburn were elected to membership in the society.

The following program was presented: First: Address by F. F. Gundrum on "Pernicious Anemia." Second: A case report by C. J. Durand on attempted artificial pneumothorax of left lung with occurrence of pneumothorax in the contralateral lung. Third: Address by Nathan G. Hale on "Chronic Prostatitis and Prostatic Hypertrophy." The program was of a high order of merit and was well discussed by members present.

Following the conclusion of the program the secretary, on behalf of the Placer County Medical Society, presented to Robert F. Rooney, dean of the medical profession of this section of California, a humidor containing a box of his favorite cigars. Doctor Rooney graduated from McGill University in March, 1870, and has been in active practice since that time. He has practiced in Placer County since 1873, and during his more active years of practice was one of the most prominent physicians in northern California. He was president of the Medical Society of the state of California for two years, 1905-6 and 1906-7. Doctor Rooney made a brief reply stating some of the incidents of his long years of practice and thanking the society for their gift.

Following the presentation a banquet was held in the Sather Grill.

ROBERT A. PEERS, Secretary.

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SACRAMENTO COUNTY

A splendid attendance of forty-eight greeted our new president, Robert N. Bramhall, at the January meeting. We met in the Empire Room of the Sacramento Hotel on the 18th. The minutes of the November meeting were read and approved.

Case Report—Gundrum reported the finding of a well-developed case of exophthalmic goiter in a Japanese male, aged 28.

Bramhall introduced J. J. Sippy, Health Officer of San Joaquin County, who spoke on the subject, "Results of Toxin-Antitoxin Administration in San Joaquin County." Before approaching his subject, Sippy pointed out the untold values that would result from contact with our sister city physicians, which could readily be made through the medium of intercity medical meetings. Then to his subject.

Following Nothnagel, the speaker résuméd the four distinct periods in the diagnosis and treatment of diphtheria. By means of concise charts the relative percentages of those immunized against diphtheria in the San Joaquin district was shown. These charts included the work done during the last four years. In the same way these charts showed the relative number of reported cases, isolated cases and fatalities during that same night.

This work with toxin-antitoxin administration was confined to children under 10 years of age, and was grouped, first, to those up to 5 years of age, and, second, to those between the age of 5 and 10. A summary showed that up to December, 1925, toxin-antitoxin had been given to 12 per cent of the population under 5, and to 85 per cent of the population between 5 and 10. As a result the reported cases, the isolated cases and the fatalities in the group between 5 and 10 have shown a tremendous diminution, and are now well below the level for the state. Though this rate has also diminished for those under the age of 5 (and this is also below the level for the state), it is quite apparent that it is in this group that the health officer finds his most difficult task. So it is, that Sippy

makes a special appeal to those men who can readily reach the child of preschool age. He closed by charging the family physician to advocate the use of toxin-antitoxin, to educate the family as to its value and, lastly, to render this service by charging a fee which is not a burden to the family.

Walter W. Cress, City Health Officer of Sacramento, read the second paper of the evening. The title was "Public Health as It Concerns the Profession."

Cress reviewed the well-known fact that for years the profession has been interested in the treatment of disease rather than its prevention. He carried this one step farther, to the extent that he believed that, locally, this same condition still prevailed to a great extent. This particular lack of cooperation and, certainly, spirit of indifference is definitely shown in the lack of reporting of communicable diseases in this city. Two instances: though there were 136 deaths from pneumonia during the last year, there were only 130 reported in the whole city. Further, there were 365 venereal cases reported from a clinic, while only forty-eight privately treated venereal cases were reported, and these reports came from sixteen doctors.

What is the result? This indifference is the direct road to State Medicine. In fact, State Medicine is here in the guise of Social Medicine. The Industrial Accident situation, the fact that 2 per cent of the population of the whole country became entitled to free medical service by a stroke of the pen, signing the recent Veterans' Act, showing the trend toward State Medicine. Highly endowed state and city hospitals now definitely compete with private institutions. Cress pointed out the most ludicrous situation existing in Sacramento—here, where one in six owns his automobile, 70 per cent of the hospital beds in the city are free beds.

Cress concluded by proclaiming that unless this lack of interest was immediately eliminated, it would mean that health departments would take over more and more work.

The papers were discussed by Gundrum, G. J. Hall, Hale, Hanna, Soutar, Christian, Topping, Wilder, Drysdale, and Dillon. The question of organized social service, the possibility of the necessity for the public care of tuberculosis and syphilis; the need to "sell" the profession the need for immunization before the education of the public; the question of what value statistics on gonorrhea were at the present time; the possibility of presenting the same subject before various women's clubs and the work being done along immunization lines in the outlying portions of the country were all discussed. The discussion was closed by Sippy and Cress. Sippy's method of handling the immunization problem in his district is that of a "card method" entirely. In that way the educational program continues satisfactorily and he is enabled to stay out of the newspapers. This automatically prevents a certain amount of antipathy. Cress offered the opinion that he believed this state would follow the lead of Florida in removing the quarantine on smallpox. In this way the need for vaccination would vividly strike the public.

The application of Louise M. Igo-Flitcroft was given its routine first reading.

The report of the Board of Directors included the following: E. M. Shively of Fair Oaks has been supplied with duplicate applications for membership. The A. M. A. questionnaire, regarding a home for indigent physicians, has been answered. The board requested that the report on the Council on Goodale's Physicians and Surgeons Insurance Corporation be presented to the society in full. Leo P. Bell's transfer application to the Yolo County Medical Society was officially presented, and the transfer application of Frank Y. Kitsuda from the Alameda County Medical Society was unanimously received.

Communications—A note was received from W. M. Miller requesting his transfer to the Placer County Medical Society. The Council's committee report on Goodale's Physicians and Surgeons Insurance Corporation was presented in full. Under new business, a motion was carried recommending that our society go on record as being in full agreement with the committee's report.

An agent of the Sacramento *Union* had asked permis-

sion of the society to list those men wishing advertising cards under the caption of "The Sacramento Medical Society." It was moved by Wilder, seconded by Gundrum, and carried that this be granted.

The secretary reported that the police would recognize properly labeled automobiles, as in the past.

The president reported that the Program Committee for the coming year has G. N. Drysdale for its chairman. The other members are James R. Snyder and A. K. Dunlap.

The meeting adjourned to a buffet lunch.

BERT S. THOMAS, *Secretary.*

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SAN DIEGO COUNTY

San Diego County Medical Society—January 29, Doctor Spear of the Naval Hospital and his staff acted as hosts to the Medical Society and gave an excellent exposition of the tuberculosis problem, F. M. Pottenger of Monrovia discussing the medical side and C. D. Lockwood of Pasadena presenting the surgical aspects of this ever-present problem. A large attendance enjoyed this excellent program, after which a social hour was spent in the lunch room.

At the January meetings of the local hospitals the following staff officers were elected:

San Diego County General Hospital—H. A. Thompson, president; W. D. Rolph, vice-president; W. M. Alberty, secretary.

Mercy Hospital—L. H. Redelings, president; Frank L. Carter, vice-president; W. W. Russell, secretary; J. D. Bobbitt, member of Executive Committee.

Scripps Memorial Hospital—James W. Sherrill, president; W. H. Potter, vice-president; W. L. Garth, secretary.

President M. C. Harding of the Medical Society announces the following appointments for 1927:

Editors of Bulletin—Robert Pollock, Geistweit.

Councilors-at-Large—Cordua, D. K. Woods.

Membership—Bobbitt (chairman), Molitor, Barclay.

Child Welfare—Mahan (chairman), W. H. Newman, Marjorie Potter, Lesem, Mühl.

County Hospital—A. E. Elliott, Weinberger.

Medical-Legal—Donnell (chairman), J. M. McColl, Hoffman.

Program—Fox (chairman), Kinney, Churchill.

Directory—Will Potter, Welpton, Grant.

The following constitute the officers elected for the San Diego Medical Library for 1927:

W. S. Kyes, D. D. S., president; H. G. Lazelle, vice-president; Willard H. Newman, secretary-treasurer.

Library Directors—J. C. Dement, F. S. Emery, D. D. S.; M. C. Harding, W. S. Keyes, D. D. S.; E. C. Lee, H. G. Lazelle; E. B. Porter, Robert Pollock, C. E. Rees, Harvey Stallard, D. D. S.

Beginning January 18, and lasting throughout the week, the annual medical lectureship course this year was delivered by William McKimm Marriott, Dean of Medicine at Washington University, St. Louis. The first lecture followed the dinner at the Cabrillo Café given in his honor by the Medical Society, and was devoted to an understanding of the principles, symptomatology and treatment of acidosis in its various clinical relations. Doctor Marriott has the happy faculty of stating essential facts in a clear and interesting way that reaches and holds his audience. A well-modulated voice and a commanding presence add to the impression that one is listening to an authority.

The impression given the first evening was strong enough to insure him a full house each succeeding night at the Mercy Hospital auditorium, where the meetings were held. His second lecture was on the subject of alkalesis, to which he gave a vivid interpretation that was enlightening to many. On the third and fourth evenings he discussed the modern physiology of digestion and the broader meanings of metabolism, including what we actually know regarding the endocrine glands and their influence upon body metabolism. At the last lecture, Satur-

day night, which was greeted by a large attendance, he discussed some of the higher problems of biologic chemistry and brought to a close what will long be remembered as a valuable graduate course in the field of body chemistry and physiology, normal and perverted.

After the society's monthly dinner, February 8, H. C. Naffziger of San Francisco spoke on the subject of "Head Injuries." He put emphasis on selecting the proper time for surgical interference, saying that most conditions permit of waiting until the primary shock has subsided before surgery is demanded. Keeping the patient at rest and using all measures to relieve shock are the first considerations. The various techniques of surgical operations on the skull were discussed in detail. He placed diagnostic emphasis upon the gravity of cerebral injuries when the pulse pressure exceeded the pulse rate. The lecturer covered his field so completely that no discussion was invited.

ROBERT POLLOCK.

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SAN FRANCISCO COUNTY

At the January meeting of the Eye, Ear, Nose, and Throat Section of the San Francisco County Society Wilbur F. Swett read a paper entitled "The Value of Threshold Tests." He demonstrated an apparatus for determining the sensitiveness of the color-perceiving visual sense and showed its application in differential diagnosis. Discussion by Cordes, Obarrio, Hans and Otto Barkan.

Robert Martin's paper was entitled "Sinus Disease in Children." There has been a recent awakening in the study of these conditions, and many cases of asthenia, sepsis and nephritis in children have been relieved by eradication of these foci of infection. In his experience medical treatment has usually been sufficient.

William Palmer Lucas discussed the subject from the standpoint of the pediatrician, and Arbuckle of St. Louis and Wallace Smith spoke of the clinical diagnosis and treatment. Robert Newell mentioned points in x-ray diagnosis.

ROBERT STEELE IRVINE.

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SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held February 3, 1927, at the local Health Center, 129 South American Street. Twenty-three were in attendance. V. H. Podstata of San Francisco was guest and speaker of the evening.

The meeting was called to order by J. W. Barnes, president, at 8:30 p. m. The minutes of the previous meeting were read and approved.

The committee on admissions reported favorably on the application for membership of Charles E. Stanger. In accordance with the constitution, the Chair declared C. E. Stanger duly elected an active member of the society.

The report of the Committee on Industrial Medicine of the California Medical Association relative to the proposed plan of the Physicians' and Surgeons' Insurance Corporation, sponsored by George W. Goodale, was read.

Action—Moved by George H. Sanderson, seconded by B. J. Powell, that in accordance with the findings of the Committee on Industrial Medicine of the California Medical Association, the San Joaquin County Medical Society considers it unethical for any of its members to become associated with the Physicians' and Surgeons' Insurance Corporation as outlined in the plan by George W. Goodale. Carried.

The secretary was instructed to mail a copy of the report of the committee and the resolution passed by the society to each member of the San Joaquin County Medical Society.

The president presented V. H. Podstata, who spoke on the subject "Newer Sedatives and Hypnotics." The doctor considered briefly the various conditions which cause us to think of sedatives and hypnotics. He enumerated the following conditions, which frequently call for relief, and in which sedatives or hypnotics are indicated:

1. Pure sadness or depression with mental pain; the

patient is usually silent. 2. Emotional tension: where the patient may not even be conscious that he is under strain. 3. Anxiety: is a combination of sadness plus tension. Anxiety is not likely to be missed by the physician, as the facial expression and general attitude of the patient is so very characteristic of this condition. 4. Despair: a combination of anxiety plus agitation and excitement. The patient feels impelled to do something. Suffers intense mental pain, there is an inhibition of ideas, and paucity of thought. Sadness with agitation is the typical picture of involution melancholia. In this mental state there is a strong impulse to act, a great tendency to self-destruction. 5. Anger: is explosive in character, a paradoxical mixture of feelings, plus the impulse to react. 6. Exaltation, elation plus excitement, with increased mental activity and psychomotor restlessness. The patient cannot keep still, talks, raves, dances, and cannot sleep. 7. Excitement: the result of drugs such as alcohol, cocaine, and the like. In these there is cerebral excitement and physical restlessness, and everlasting impulse to activity. The patient is often bright and alert. In morphin there is quiet contentment. Patient rests mentally and physically. 8. Drug craving, hyperthyroidism, and sex excitement often call for relief by sedatives.

Hypnotics are called for in sleeplessness from physical pain, mental pain, psychomotor excitement, psychic excitement, high nervous tension, cerebral anemia, cerebral hyperemia, toxic condition of various kinds, drug craving and, at onset, of various mental disorders; this last condition should be recognized early and every effort made to put the patient to sleep. A good sleep at the onset may prevent the development of the psychosis.

In speaking of the newer remedies the doctor stated that he did not wish it to be understood that he ignored the old or minimized such measures as hydrotherapy, psychotherapy and others, all of which are of inestimable value when correctly used.

Of the bromides series the doctor named adalin, brometone, bromipin, and sabromin; they are excellent sedatives; their indications are the same as for bromides; they are not likely to disorder digestion or to produce skin eruptions. Bromipin is supposed to have more lasting effect than bromides. The absorption of sabromin is slow and the elimination is also slow.

Adalin is given in 5 to 10 grains. in cold water. Brometone is the result of the reaction of acetone on bromoform; the dose is from 5 to 10 grains. Bromipin is a solution of sesame oil containing about 10 per cent of organic bromide. Dose 1 fluid dram. Sabromin may be given in doses of 5 to 20 grains.

Of the benzyl series, benzyl benzoate dose 2 to 20 grains, benzyl fumarate 5 to 20 grains. These are anti-spasmodics rather than direct sedatives, and act chiefly on unstripped muscle fibers. They relieve intestinal spasms quickly and do not upset the stomach. Ephedrin hydrochloride prepared from Ma Huang, known to the Chinese for over five thousand years, is a good drug. Its action is more lasting than adrenalin. Dose per mouth $\frac{1}{2}$ to 2 grains. Asthma of the idiopathic type will yield quickly to ephedrin. It acts on smooth muscle fibers. It is a very expensive remedy which is one of its chief drawbacks for general use. Aspirin in doses of 5 to 10 or even 15 grains is a splendid remedy, especially in physical distress and pain. Pyramidon in doses of 5 to 10 grains is an excellent drug to use for pain; combined with small doses of codein it is very effective. Of the newer opium series, pantopon in doses from 1/12 grain to 1/3 grain is preferable to morphin; there are fewer after effects and it does not lock up the secretions. Dionin or ethyl morphin hydrochloride in doses of 1/4 to 1 grain is an excellent remedy for use in the treatment of drug addicts; splendid as a remedy to taper off. Pain and irritation whether physical or mental call for opiates. Tincture opii is a most valuable remedy in sadness, agitated depressions, and involution melancholia. Scopolamin or hyoscin is indicated in motor excitements and irritations of the lower motor neurone. For the rigidity and tremor in paralysis agitans, hyoscin in small, frequently repeated doses, is the best remedy. Of the barbituric acid series veronal, luminal, allonal, and neonal are the favored remedies. Luminal is a powerful drug; do not use above 2 grains or 3 grains at most. Large doses must be used with extreme caution.

It is likely to produce stupor, headaches, and dizziness. It is by far the best drug for epilepsy, and when combined with small doses of bromides the results are often remarkable. It does not cure, and must be used continually. Neonal is very soluble and readily absorbed. It produces sleep, but is not used for that purpose. It acts with telling effect in some cases of epilepsy and anxiety neurosis, as it relaxes the patient. Neonal combined with pyramidon is an excellent remedy for neuralgia and in colds. Luminal and neonal are the best remedies in drug craving. Cerebral anemia may call for cardiac stimulants. In sex excitement monobromide of camphor and salicylic acid series are good. The doctor urged careful history taking, as psychoses are frequently ushered in with a period of sleeplessness and every effort should be made to put the patient to sleep and induce rest; by so doing, an attack of complete mental breakdown may frequently be prevented.

The members asked many questions which the doctor answered in a very instructive and practical manner.

There being no further business the meeting adjourned at 10 p. m.

F. J. CONZELMANN, *Secretary.*

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SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held at the Cottage Hospital on Monday evening, December 13, at 8 o'clock, with President Henderson in the chair. There were present twenty members and five visitors.

Prior to the reading of the papers, Doctor Lewis made an urgent appeal to the membership of the society to take a more active interest in the American Association for Medical Progress, or at least pay the dues. It was moved by Lewis and seconded by Schurmeier and unanimously carried that there be noted on the next program a request for each member to forward the dues of \$2 to the Association.

Harry Schurmeier gave a paper on "Posture and Body Mechanics," which was discussed by Lamb, Brush, Van Paing, Nuzum, and Lewis.

Hilmart Koefod gave a paper on "Jejunocolic Fistula," together with a case report. His paper was discussed by Samuel Robinson, who made diagrams on the board showing the various surgical methods of procedure, and by Nuzum.

Vandever reported five cases of bronchoscopy and gave a practical demonstration of the use of the bronchoscope. These reported cases were discussed by Lewis, Profant, Mellinger, and Means.

To make arrangements for the annual banquet, the president appointed as a committee Doctors Nuzum, Mellinger, Ullmann, Henderson, and Eaton.

There being no further business the meeting adjourned.

WILLIAM H. EATON, *Secretary.*

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STANISLAUS COUNTY

On Friday, February 11, the Stanislaus County Medical Society was addressed by L. A. Emge of the Stanford Medical School. The subject was "Fertility and Sterility." He gave a splendid talk on the diagnosis and treatment of sterility. He has had wide experience and has advanced many new ideas on a subject which has been neglected in the past. Doctor Emge gave a very favorable impression, and will be asked to honor the society with another talk later on.

At the meeting Hans Hartman, H. B. Stewart, and R. A. Porter were elected to membership.

The next meeting will be held at the Women's Improvement Club, and the ladies will be invited. A special program of entertainment will be offered.

J. W. MORGAN, *Secretary.*

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VENTURA COUNTY

At our annual meeting, January 25, 1927, at 7:30 p. m. at the Pierpont Beach and Country Club at Ventura, the

following were present: J. Bianchi, G. A. Broughton, W. S. Clark, and L. W. Achenback, Ventura; L. E. Schultz, B. E. Merrill, and F. E. Blaisdell, Santa Paula; J. E. Whitlow, Fillmore; H. F. Pierce and W. E. Vandevere, Santa Barbara; Councilor W. H. Kiger and C. G. Toland, Los Angeles.

After dinner Doctor Vandevere gave an illustrated talk on bronchoscopy and esophagoscopy. Doctor Kiger gave us some helpful counsel and suggestions on some of our local problems.

At the election, the old officers were unanimously re-elected.

J. Bianchi was elected delegate, with B. Merrill as alternate.

The past year the society functioned better than ever, and it fully expects to surpass that record in 1927.

C. E. SCHULTZ, *Secretary.*

CHANGES IN MEMBERSHIP

New Members—Alameda County—Lynne H. Blanchard, Leland Taylor, Dorothy M. Allen, Philip J. Dick, Oakland; John Channeson, Alameda.

Butte County—John J. Sellwood, Chico.

Los Angeles County—Jean N. Andrews, Leslie C. Audrain, Harry E. Bryant, Sydney V. Kibby, Frances E. Giles, Charles William Gosney, John L. Montgomery, Jerome W. Shilling, Los Angeles.

Mendocino County—Robert T. Boyd, Fort Bragg; Suren H. Babington, Talmage.

Monterey County—Wilson T. Davidson, Rudolph A. Kocher, Carmel; Werner D. Meyenberg, Salinas.

Placer County—Samuel S. Glassman, Colfax; Ernest E. Myers, Roseville.

San Bernardino County—William T. Engleman, San Bernardino.

San Diego County—W. K. Brown, Frank C. Svoboda, Alfred J. Cooper, Olive B. Cordua, San Diego.

San Francisco County—Stuart T. Davison, Howard T. Plank, Montague S. Woolf, Carl B. Bowen, Pini J. Calvi, Clarence D. Potter, Audrey G. Rawlins, William Lister Rogers, Joseph S. Rubin, Shester H. Woolsey, San Francisco.

San Mateo County—H. Wade Macomber, Burlingame; Joseph L. Ross, Redwood City; Jewyl A. Booth, San Mateo; Herman R. Holmes, Belmont.

Santa Barbara County—Harry G. Hanze, Solvang; William E. Johnson, Santa Barbara.

Transferred—A. N. Crain, from Orange County to Yolo-Colusa County.

Leo P. Bell, from Sacramento County to Orange County.

B. H. Gilbert, from Siskiyou County to Tulare County.

Frank Y. Kitsuda, from Alameda County to Sacramento County.

L. R. Knorr, from San Diego County to Mendocino County.

John A. Jackson, from Orange County to Los Angeles County.

Resigned—Lawrence J. Bernard, from San Francisco County.

R. Cadwallader, from San Francisco County.

G. A. Charlton, from Los Angeles County.

Emmett A. Fagin, from Los Angeles County.

Walter H. Frohlich, from San Francisco County.

Deaths—Biber, Paul E. Died at Burlingame, January 19, 1927, age 51. Graduate of the University of California Medical School, San Francisco, 1903, and licensed in California the same year. Doctor Biber was formerly a member of the San Mateo County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Garner, Robert W. T. Died at Susanville, December 31, 1926, age 44. Graduate of the Northwestern University Medical School, Illinois, 1907, and licensed in California the same year. Doctor Garner was a member of the Lassen-Plumas County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Molony, James J. Died at San Francisco, February 9,

1927, age 58. Graduate of the Medical Department of the University of California, 1891. Licensed in California in 1892. Doctor Molony was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Reynolds, Frederick W. Died at San Pedro, January 26, 1927, age 53. Graduate of the University of Southern California College of Medicine, Los Angeles, 1900, and licensed in California the same year. Doctor Reynolds was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Tower, Franklyn J. Died at Redondo Beach, February 6, 1927, age 59. Graduate of the University of Illinois College of Medicine, Chicago, 1890. Licensed in California in 1893. Doctor Tower was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.



BILTMORE HOTEL

Los Angeles

HEADQUARTERS C. M. A. MEETING

Abdominal Manifestations of Hodgkin's Disease—In Hodgkin's disease primary involvement of the abdominal viscera is exceedingly rare. George P. Muller and Russell S. Boles, Philadelphia (*Journal A. M. A.*), report three such cases. Little is to be gained from a consideration of the symptoms in the abdominal type of Hodgkin's disease, since they are variable and may simulate a number of acute and chronic conditions. Symptoms referable to the gastrointestinal tract are usually present when the abdominal viscera are affected. Pruritus, diarrhea and the recurrent type of fever are always suggestive; jaundice, ascites and adenopathy may be present. When Hodgkin's disease is suspected, biopsy of an affected gland should be performed. The classic histologic picture of the disease is rarely wanting when the disease exists. In atypical forms, confirmatory evidence is usually supplied by frequent blood examinations; the blood picture is fairly characteristic. Hodgkin's disease of the abdominal type must be differentiated from tuberculous peritonitis, at times from typhoid, from lymphosarcoma of the retroperitoneal glands, from the splenomegalies—particularly leukemia and splenic anemia—and occasionally from splenomegaly of the Gaucher type, Banti's disease and von Jaksch's anemia. Radical surgery may be considered when the external evidence indicates that the process is chronic and nonprogressive, when some function is interfered with by pressure, and when splenomegaly persists after irradiation. In the treatment of Hodgkin's disease the best results in the way of "temporary amelioration" have been obtained by roentgenotherapy, both general and local. Such therapy should be directed primarily to the abdominal deposits. The prognosis of Hodgkin's disease is apparently hopeless.

Prohibition is the antithesis of all that makes for good government and good citizenship. When civil government ceases to be the protector of rights and undertakes to be the censor of daily habits and practices, it ceases to be a free government and becomes an autocracy.—Brigadier-General Ransom Gillette, *Medical Times*.

UTAH STATE MEDICAL ASSOCIATION

W. R. CALDERWOOD, Salt Lake President
E. H. SMITH, Ogden President-Elect
FRANK B. STEELE, Salt Lake Secretary
J. U. GIESSY, 701 Medical Arts Building, Salt Lake Associate Editor for Utah

WHERE IN THE WORLD ARE WE?

"Ubinam gentium sumus!" Cicero exclaims in one of his orations. Roughly that may be translated into the caption under which we write. Where are we at, might be another way to put it. And the question to us as bearing on what we have in mind seems apt. In the *Journal A. M. A.* for January 15, 1927, page 175, southeast corner, there appears a brief article on the present day trend as applying to physical therapy. To read this article is sufficient justification for the existence of the Council on Physical Therapy as a sort of brake on the whole machine to keep it from running wild.

Physical therapy as an adjunct to established medical and surgical methods needs no one any longer to present its brief. It is a thing which has won on its own merits, through the medium of end results. In other words it has proved itself as an available means of gaining those results. Indeed, it has won so far that it is now being popularized by some of the manufacturers of equipment among the "cults." So-called "drugless practitioners" begin to see in it a means of lining their pockets still further at the expense of their dupes. According to certain salesmen for certain outfits, physical therapy will cure anything from a tarnished reputation to the gout. Quite naturally that's all blah, but it's remarkable how many people appear to fall for it. And the worst of it is that not all the gullibility seems to be confined to the cults or the laity. The thing seems to be spreading into professional ranks.

Now, as a matter of fact, physical therapy, which actually consists in the handling of forces capable of producing, as other forces, favorable or unfavorable results, requires a certain fundamental knowledge on the part of the operator to determine what those results shall be. And only when treatment is prescribed and directed by one who actually understands the potentialities of the means employed, can such definite results be assured. Ignorance may be bliss, but ignorance in the handling of any patient's welfare is apt to be less blissful than one might anticipate. And yet, recently, individuals and even institutions within our knowledge have been purchasing physical therapy apparatus, and attempting to operate it without any competent direction or instruction. What may we predicate as a result? What one would predicate in any of the arts or trades requiring skilled training, were some one to attempt to produce the results without such training, seems almost a matter of course. An auto mechanic may be a good auto mechanic, but that does not mean that he is competent to construct a modern house. And the result will be, can hardly escape being, just one thing—a lack of consistent results of a beneficial nature, with a gradually developing loss

of confidence in the method due to wrong or undirected employment, which will bring the method undeservedly into disrepute. And yet—these means of attack on certain conditions have been consistently used abroad with good results for forty years. And if it fails of those results on this side of the water it will be because too many people are trying to use it without any primary knowledge of what they are doing beyond the fact that to start the fireworks they have to throw a switch. Consequently we are very, very glad indeed to see the A. M. A. create a body of sincere judges to go fully into the subject—weigh and appraise it on its merits, bring in such a report as they have already made in its favor, and establish a permanent organization for the standardization and regulation of its future course on a high and ethical basis commensurate with any other branch of the healing art. Toward this end we feel sure that the two major national societies with a personnel consisting of men interested in the subject will lose no opportunity to cooperate. Only in some such way as it now appears may we learn "where we are at" indeed.

SCHICKAREE

We believe that every community should have one, a "schickaree" being an active campaign for the immunization of every child of school age against diphtheria. According to reports from Millard County, they are having a "schickaree" there now, with 3483 children out of 3632 already immunized and the work still going forward as we write.

Recalling the terrible scourge diphtheria formerly constituted against childhood, we can only feel that this is a record of which to be proud, and one which every section of the state and nation would do well to emulate.

The first official use of the new lecture room in the Medical Arts Building was the regular meeting of the Salt Lake County Medical Society the night of February 14. An interesting program was given, and the members spent their time admiring the quarters which from now on will house the society meetings, thus giving the local organization a long and much desired central meeting point.

A report to T. B. Beatty, head of the State Board of Health, on inoculation of the students and preschool age children of Millard County shows that 3483 out of 3632 children had been immunized for the prevention of diphtheria.

Robert Welles Fisher, 63, prominent in the County and State Medical societies for the past thirty-seven years, died recently of pneumonia.

He was a former secretary and president of the Salt Lake County Medical Society and served as president of the Utah State Medical Association in 1912. He was professor of *materia medica* and *pharmacy* at the University of Utah from 1899 to 1914. From 1901 to 1909 he served as secretary of the Utah State Board of Medical Examiners.

Doctor Fisher was born in Reaford, Delaware, October 10, 1863. He received his degree of Ph. G. in 1887 at Philadelphia College of Pharmacy and did special work in pharmacology and surgery at Harvard in 1898. He was graduated from the Jefferson Medical College in 1890. Since that time, with the exception of the years he spent in postgraduate work, he had been practicing medi-

one in Salt Lake and had been a member of the staff of Saint Mark's Hospital.

He served as a major in the medical corps during the World War and spent considerable time with the A. E. F. in England and France.

He is survived by his widow, Margaret Van B. Terry Fisher, and four children, Vaughan, Anna B., Polly and Robert Welles, Jr.

Stanley Clark of Provo has been appointed county physician to succeed J. Karl Beck. Doctor Clark is a graduate of the Brigham Young University and the Jefferson Medical College. He will be assisted in his work by Guy S. Richards of Lehi and Vernon F. Houston of American Fork.

The medical school at the University of Utah has received an addition to its library of thirty-six books on medicine and surgery from J. R. Parsons of Salt Lake. Miss Blanche Cooper of Salt Lake has also presented the school with ten books on pediatrics.

Among the faculty additions are Martin C. Linden, part-time instructor in surgery; Guy Van Scyoc, instructor in physical diagnosis, and Edward E. LeCompte and R. J. Alexander, as assistants in teaching anatomy.

Salt Lake County Medical Society (M. M. Critchlow, secretary)—A regular meeting of the society was held at the Commercial Club, Monday, January 24, 1927. Meeting called to order at 8:05 p. m. by President W. G. Schulte. Forty-three members and nine visitors were present.

Minutes of the previous meeting were read and accepted without correction.

No clinical cases were presented.

A paper on "Club-Feet" was read by A. L. Heuther. He described the possible causes, types of deformity, diagnosis and treatment of the various classes of the deformity. This paper was illustrated by lantern slides. This very interesting paper was discussed by L. N. Ossman and C. M. Benedict.

The next paper was read by Ralph Tandowsky on "Precipitin Test as an Aid in the Diagnosis and Prognosis of Nephritis." He tabulated the results of his own work. He described the preparation of serum from rabbits, immunized with protein from a human nephritic kidney and described the preparation and the results obtained from using this as an antigen on one hundred patients with albumin in the urine. This interesting paper was discussed by T. A. Flood, W. R. Tyndale, Doctor Caldera, L. E. Viko, and W. G. Schulte.

The following men were elected to membership in the society: O. J. LaBarge, W. Lawrence Montgomery, James F. McGregor, Hugo Christopherson, and B. I. Burns.

Application of Grover E. Christensen was read.

W. E. Tyndale moved that Section 2, Chapter 5, of the by-laws be changed, effective January 1, 1928, to read as follows:

"The annual dues shall be \$15 and shall be payable on January 1 of each year. Members not having paid by February 1 of each year shall be considered delinquent, and their dues shall be automatically raised to \$17. Five dollars for each member shall be placed in a separate fund known as the Library Fund, which shall be used only for maintenance of the library of the society. Any member who shall fail to pay his annual dues by April 1 shall be held as suspended without action on the part of the society. A member suspended for nonpayment of dues shall be restored to full membership on payment of all indebtedness. Members more than one year in arrears shall be dropped from the roll of members." This was seconded by M. C. Linden.

Discussed by Joseph E. Jack, L. J. Paul, Sol G. Kahn, J. A. Phipps, John Z. Brown, Ralph Tandowsky, E. Spencer Wright, L. E. Viko, and Ralph Pendleton, who moved that the proposed amendment be amended striking out the clause referring to a library fund. There was no second to this.

Report of the Auditing Committee was read.

Communication from the Ladies' Auxiliary of the Salt Lake County Medical Society was read.

February 14, 1927—The society met again in the Assembly Room of the Medical Arts Building, Salt Lake City, Utah. The meeting was called to order at 8:10 p. m. by President W. G. Schulte. Sixty-seven members and four visitors were present.

Fred Stauffer was called upon to say a few words in honor of the occasion of the first meeting of the society in the new building. The society applauded him and E. F. Root.

A. J. Hosmer read a splendid paper on "The Pathology and Treatment of Burns and Skin Grafts." The subject was thoroughly covered, and his original device for utilizing the principle of immobilization was described and illustrated by lantern slides. The case history of two patients who were treated by this method were gone into in detail.

This very interesting paper was discussed by W. N. Pugh, C. J. Pearsall, E. F. Root, J. U. Giesy, who talked on the phototherapy of burns.

Miss Irene Shields, executive secretary of the Orphans' Home and Day Nursery, talked for a few minutes on the policies and aims of the Orphans' Home.

A communication from the Telephone Company was read. C. M. Benedict moved that a committee be appointed to recommend action on the communication to the society. Seconded by L. N. Ossman. Carried. Discussion by H. P. Kirtley and E. F. Root. The Chair appointed the following men to compose the committee: H. P. Kirtley (chairman), E. F. Root, and John Z. Brown.

Grover E. Christensen was elected to membership.

A communication from Press Bancroft, General Agent, Southern Pacific Lines, was read.

Adjournment at 10:50 p. m.

M. M. CRITCHLOW, *Secretary*.

NEWS

Southern California Medical Association—The seventy-sixth semiannual meeting of the Southern California Medical Association will be held at the Elks' Club in Redlands, March 18 and 19.

Casa Loma Hotel will be the headquarters, and it is suggested that those planning to attend make reservations early, as that is the busy time for the hotels in Redlands.

Rea Smith, Ray Taylor, Guy Cockran, Hugh Berkley, Ernest Fishbaugh, E. J. Eyttinge, C. Hilliard, Arthur Cecil, and other well-known physicians are on the program for the scientific meetings Friday afternoon, Saturday morning and afternoon.

Friday evening, Harold Hill, clinical Professor of Medicine at the University of California, will speak on "Endocarditis." Harold Brunn, clinical Professor of Surgery at the University of California Medical School, will speak on "Lung Abscess." Saturday evening Professor Blaisdell of Pomona College will address the society on some subject which is closely related to medicine.

Officers of the Association are: Charles T. Sturgeon, M. D., president, Los Angeles; Ernest J. Eyttinge, M. D., first vice-president, Redlands; Walter P. Bliss, M. D., second vice-president, Pasadena; William J. Norris, M. D., secretary and treasurer, Los Angeles.

C. M. Yater, Secretary of the New Mexico Medical Society, in a letter to William Duffield, Los Angeles, chairman local Committee of Arrangements for the 1927 session of the California Medical Association, points out that the New Mexico Society meets May 9-11. California physicians are invited to stop off on their way to the A. M. A. meeting in Washington.

Doctor Yater says Carlsbad Cavern, the greatest cavern in the world, is well worth seeing. "One small room of this cavern would house several Mammoth Caves of Kentucky," and the caverns are equipped with electric lights and elevators.

F. B. Steele, Secretary of the Utah Medical Association, in reply to an invitation to attend the California Medical Association annual meeting in Los Angeles, writes Doctor Duffield, chairman, as follows:

"Our meeting will probably be the week commencing

June 20. Our program is not in any degree complete as yet. We thought that by putting it just ahead of the Pacific Northwest meeting we might be able to steal some of their timber on the way out, and incidentally show them some of the beauties of Utah. We expect to have a six-day meet, the last three days devoted mostly to diagnostic clinics.

"You may regard it as presumption for anyone to speak to a Californian of the beauties of another section, but may I say of Utah as the Good Book says of another locality, 'The half has never been told.' Nothing would please us more than to have you and a great number of your associates as our guests, and permit us to show you some real sunshine, the most magnificent canyons that God ever allowed out of doors, and a state richer in natural resources than any other in the Union. I will deem it a privilege to send you a program when our arrangements are definitely completed.

"Barring complications I shall hope for the privilege of meeting you personally in Los Angeles the last week in April."

The American College of Surgeons will hold a state meeting at Sacramento on April 6th and 7 of this year, reports Charles E. von Geldern, 1010 Forum Building, Sacramento, California, of the last convention by arrangements.

The program will include wet and dry clinics, papers contributed by local and eastern members, but the main object of the meeting is to interest the public in scientific medicine and its ideals. For this purpose public lectures with lantern slides will be held.

The College feels that the success of such a meeting depends largely on the cooperation of the medical practitioners as a whole, and it therefore hopes that as many physicians as possible will attend and participate in the discussions.

Hotel accommodations suitable for the occasion have been promised by the local hosteries.

Notice of Postgraduate Opportunity for Study— While in Los Angeles, members of the regular medical profession are invited to see operations, surgical and medical clinics daily.

Call VAndike 1221, Station 14, for listings.

The Clinical and Statistical Section of the Los Angeles County Medical Association.

At the annual meeting of the staff of Fabiola Hospital, Oakland, held January 25, 1927, the following officers and committees were elected for the ensuing year: Claire Raso, chairman; John Scherrick, vice-chairman; William Holcomb, secretary-treasurer. Program Committee Daniel Crosby (chairman), George McClure, W. L. Bedell. Library Committee: Albert Rowe (chairman), Omer Etter, and Ergo Majors.

The laying of the cornerstone of the new Saint Joseph's Hospital of San Francisco was celebrated on February 6 in the presence of a large number of Sisters, doctors, nurses, and other friends of the institution, His Grace Archbishop Edward J. Hanna officiating. The structure of steel and reinforced concrete will represent the most approved earthquake and fireproof construction possible, and will be ready next November, providing beds for three hundred patients. The old buildings will serve until the new are opened.

The staff met February 9, Vice-President Frank Lowe presiding. F. C. Keck spoke on "A Two-Year Trip Around the World," and gave an entertaining account of the medical, artistic, historical, and other aspects of his travel, illustrated with stereopticon slides. Prof. Edmund Burke of the chemical department of the University of Montana, was introduced by Ethan Smith.

The commencement of the School of Nursing was scheduled for February 24 in the California Club, A. S. Musante, president of the staff, presiding, and Roy Parkinson speaking to the class of 1927. A dansant, sponsored by the patronesses of Saint Joseph's was given in

the evening. The graduates were honored at a dinner in Mark Hopkins Hotel, given by the Sisters.

The staff program for March 9 follows: "The Doctor and the Press—I-on-a-co," Annie G. Lyle. "Medical Treatment of Influenza," R. H. Dunn. "Surgical Complications of Influenza," C. E. Taylor; discussion by C. O. Southland and Ethan Smith.

The 1926 annual report of the Sutter Hospital, Sacramento, is an attractive pamphlet which reflects the third year's work of the hospital so that it may be readily understood and appreciated.

The hospital gave care to 3923 patients at a cost of \$8.25 per patient day, an increase from \$7.79, the cost per day of the preceding year. There were 401 births, 2946 operations and an average daily census of 96.

The officers of the hospital association are: George A. Spencer, president; W. A. Beattie, first vice-president; E. T. Rulison, treasurer; Frederick N. Scatena, assistant treasurer; George A. Briggs, secretary; Ellard L. Slack, superintendent.

The Canyon Sanatorium for the treatment of tuberculosis has instituted a special orthopedic department under the personal direction of C. C. Crane.

Special attention will be directed to the care and treatment of orthopedic conditions. Heliotherapy according to the Roller method in conjunction with open-air treatment will supplement the indicated medical and surgical procedures.

The annual meeting and dinner of the attending staff of California Lutheran Hospital, Los Angeles, was held at the University Club on Monday evening, February 21, 1927.

John A. Pratt, head of the Department of Ear, Nose, and Throat at the University of Minnesota Medical School spoke on "The Nonradical Treatment of Sinus Disease."

C. G. Toland, president of the Los Angeles County Medical Association, discussed "Iodin in the Management of the Surgical Goiter Patient."

Officers and committees of the staff rendered their annual reports. Granville MacGowan is president and George H. Kress is secretary of the staff organization.

The following examination dates have been assigned by the American Board of Otolaryngology: Washington, D. C.—Episcopal Eye, Ear and Throat Hospital, Monday, May 16, 1927, at 9 o'clock. Spokane, Washington—Saturday, June 4, 1927, at 9 o'clock.

Mount Zion Hospital Staff Conferences—L. D. Prince in discussing double congenital dislocation of hips described baby S, delivered in the hospital, November 15, 1921; a premature baby, breech delivery, Neisserian infection both eyes. Examination at the age of 2½ years showed a distinct waddling gait significant of congenital hips confirmed by x-rays, which showed a typical double congenital dislocation of the hips.

In April, 1924, closed manipulation for reduction was performed and subsequent x-rays showed the femoral heads in good position in the acetabulum. It was necessary, because of soiling, to change the cast several times. In November, 1924, x-rays showed the left hip in good position and the right hip slightly displaced upward. The child subsequently developed measles. When x-rays were again taken it was found that there was a recurrence of the dislocation on both sides. X-rays showed the acetabulum on both sides to be very shallow and the heads and necks, both sides, were likewise markedly anteverted. The child again entered the hospital (1925), but owing to its poor general condition further interference with the hips was not deemed advisable at that time. Tonsillectomy and general medication were utilized to improve her condition.

In January, 1926, an open reduction was performed on the left hip, and in March the right hip was reduced by open operation. The Smith-Peterson incision was used

and excellent exposure obtained. In attempting to replace the head (right) in the acetabulum a fracture of the neck occurred. It was possible, however, to make the reduction and the limb was put up in the abducted position.

In June, 1926, bilateral subtrochanteric osteotomies were performed and the femurs rotated inwardly so as to restore the normal relationship of the axis of the femur to the axis of its neck. Subsequent x-rays showed excellent position. The casts were removed in December, 1926, and following a course of physiotherapy treatment the child was allowed first to crawl and then to walk. At the present time the child is walking about without support, and while there is still considerable stiffness in movements of the hips this stiffness is gradually disappearing. The x-rays show the heads well in the acetabulums and a good functional recovery may be anticipated.

The patient was demonstrated because so many difficulties were encountered in bringing about the good result. Those patients who are resistant to the ordinary closed method of reduction or in those where dislocation tends to recur, one need not hesitate to do the open reduction.

One member of the first class to graduate from the University of California Medical School, in 1864, and the first woman ever to graduate from the institution in 1876 are still alive.

M. B. Pond of Napa, California, is the last survivor of the first class of the medical school in San Francisco, and according to the birth date on the original enrollment lists is now over 91 years of age.

Lucy M. Wanzer of San Francisco is the first woman to receive the degree of M. D. from the University school, fourteen years after its inauguration, although at the present time more than 17 per cent of the students enrolled are women.—Univ. of California *Clip Sheet*.

A. D. Morton and associates of the Morton Hospital, San Francisco, have expanded their former monthly bulletin of the hospital into *The Compend of Medicine and Surgery*. Number 1 contains original articles, editorials, news items, and advertising. We gather from the introductory editorial that *The Compend* is to be furnished free to western physicians and hospitals, and that enough advertising will be solicited to pay part of the cost of production and distribution.

We are glad to see on the editorial page the statement that "the editors reserve the right to reject any (advertising) copy not in conformity with the standards of the A. M. A." It is unusual for medical publications that are furnished to maintain such high ethical standards. Doctor Morton, managing editor, is a member of the San Francisco County Medical Society, the C. M. A., and the A. M. A. He is also a member of the California Board of Medical Examiners, but we do not find the names of the editor and the assistant editor listed as members of the local, state and national medical associations.

Kahn Precipitation Test for Syphilis.—The evidence collected by J. G. Hopkins and Walter M. Brunet, New York (*Journal A. M. A.*), by means of a questionnaire brings out the following points: 1. The present technique of the Kahn test is superior to the earlier technique. 2. The results obtained by the Kahn test (present technique) correspond to those of the Wassermann test in a large majority of cases. Either test is negative in isolated cases of syphilis and positive in instances in which the serum reaction is the only evidence of syphilis. 3. A small number of Wassermann positive serums give negative Kahn reactions. 4. A slightly larger number of Wassermann negative serums give positive Kahn reactions. 5. The Kahn test is somewhat more sensitive than the Wassermann in primary syphilis and more persistently positive in many treated cases. 6. The main disadvantage of the Kahn test is its failure in a few cases showing a definitely positive Wassermann reaction. 7. The main advantages of the Kahn test are comparative simplicity of procedure, rapidity of obtaining results, its usefulness with anticomplementary serums, and the fact that it reveals a reaction in some cases in which the Wassermann reaction is negative or doubtful.

CALIFORNIA BOARD OF MEDICAL EXAMINERS

C. B. PINKHAM, M. D., *Secretary*

Walter Raleigh Anderson, cited following his conviction in Los Angeles of contributing to the delinquency of a minor, was called before the Board of Medical Examiners for a hearing at the regular meeting just closed and was found guilty as charged. The imposition of penalty was deferred to the regular meeting of the board to be held in San Francisco commencing June 27. Doctor Anderson failed to appear.

According to the Los Angeles *Illustrated News* of January 24, 1927, the Cale College of Chiropractic, Los Angeles, has petitioned Governor Young to remove from office the State Board of Chiropractic Examiners, based upon the board's refusal to examine certain graduates on the ground that the school is not sufficiently equipped in instructors.

Certificates from chiropractors would be recognized in securing workmen's compensation under a bill which Senator Thomas A. Maloney of San Francisco has introduced in the Senate. Under the present law, certificates from chiropractors are not recognized although those from physicians and surgeons are. Maloney expressed the belief that inasmuch as chiropractors are recognized by the state under a regularly constituted board, their certificates should be good when workmen present them for compensation claims.—*Sacramento Bee*, January 13, 1927.

According to the Watsonville *Register* of January 28, 1927, Chester Cook, recent arrival in California from Tennessee, was charged by the Board of Chiropractic Examiners with practicing chiropractic in Watsonville without obtaining the certificate required by law.

Eloisa de Bolanos, an unlicensed Mexican midwife, was recently reported to have pleaded guilty in Los Angeles to a charge of violation of the Medical Practice Act and was sentenced to serve 180 days in the county jail, said sentence being suspended for a period of two years. Our special agent reported that "in addition to practicing obstetrics she is said to treat different diseases with herbs and to sell herbs to induce abortions."

Senator John J. Crowley, at the request of the Board of Medical Examiners, has introduced a measure aimed at the diploma mills which will make it a felony to buy, sell, or traffic in fraudulent degrees and credentials. Fraud of this character is at present classified merely as a misdemeanor. The measure was passed at the 1925 session of the legislature, but failed to receive the approval of the Governor.

An editorial in the San Francisco *Chronicle* of January 25, 1927, under the caption, "Family Doctor Comes Back," relates that the University of California "is resuming an old practice of apprenticing young doctors to general practitioners. . . . Resumption of the preceptor method of teaching is expected to give the inexperienced physician the kind of training he needs . . . yet at the same time having the advice of the old doctor with whom he is serving. . . . The university will do the public a great service in bringing back the family doctor."

According to the San Francisco *Examiner* of February 1, 1927, "Colonel Dinsah P. Ghadiali, M. D., LL. D., picturesque Indian Pharisee, worshiper of Zoroaster, former officer in the New York aerial police force, metaphysician, originator or the 'science' of spectrochrome therapy, lecturer, and known throughout the country as the 'Hindoo Edison,' may spend five years in the federal penitentiary for what he did after he had mesmerized an attractive 19-year-old Portland girl, he having been sentenced to five years and a \$5000 fine on a Mann White Slave Law charge." In December, 1923, and again in April, 1924, this individual gave a course of lectures on his spectrochrome therapy in San Francisco, and also in Los Angeles. The *Journal of the American Medical Association*, January 26, 1924, page 321, printed an article regarding Colonel Ghadiali and his spectrochrome ther-

apy, and the Dearborn *Independent* of March 15, 1924, printed an article entitled "Colored Glass Now Cures All Our Ills." In both of these articles appeared reproduced photographs of Colonel Ghadiali.

According to a report from our special agent, W. Roy Graham, unlicensed chiropodist, charged with grand larceny, embezzlement and forgery, had been sentenced to San Quentin for from one to ten years on each of the seventeen counts, sentences to run consecutively. "If the maximum sentence (170 years) is carried out, his only chance to practice chiropody in the future will be in state prison." ("News Items," June, October, and December, 1926.)

Davis Grisso, M. D., whose license was revoked by the Board of Medical Examiners in 1923, which revocation was sustained by the higher courts of this state some time ago, is reported to have continued his practice as evidenced by a death certificate of the Bohannon Cancer Institute filed with the Berkeley Health Department. A charge of violation of the Medical Practice Act has been filed against Grisso in Alameda County. Doctor Grisso's attorney filed some legal obstacle in the Superior Court of Oakland, California, which was designed to tie the hands of the board, to which Chief Counsel Bianchi demurred, and his demurrer was sustained, our attorney relating: "I trust this will terminate the matter. I am this day serving upon the attorney for Grisso notice of the proceedings taken by the court." ("News Items," January, February, 1926.)

Senator J. J. Crowley of San Francisco, at the request of the State Board of Medical Examiners, has introduced Senate Bill 308 amending Section 11 of the Medical Practice Act. This bill resulted from a conference with representatives of the three medical schools in this state, and changes the subjects required for physicians' and surgeons' examination in accordance with the present-day standard of medical education.

The State Supreme Court yesterday denied a writ of habeas corpus to Dr. F. K. Lord of Modesto, who was found guilty of prescribing an excessive amount of narcotics to a patient . . . —San Francisco *Chronicle*, December 12, 1926. Doctor Lord's California license was suspended for a period of one year by the Board of Medical Examiners on March 9, 1926, after he had been found guilty of habitual intemperance. His attorneys filed a writ of review which is pending, and in the meantime Doctor Lord has been practicing while awaiting the outcome of his appeal. ("News Items," March, May, June, and July, 1926.)

According to the San Francisco *Examiner* of February 4, 1927, Low Sam, a Chinese herbalist of San Francisco, was fined \$300 by Superior Judge Michael Roach following his conviction on a charge of violation of the state Medical Practice Act.

According to a report of our Special Agent Carter, Floyd McCall, a licensed chiropractor, who claims to be the inventor of an instrument known as the "Bionopath" and to be the head of the Binotorium in Los Angeles, has been distributing literature relating: "The crippled have been made to walk; the deaf to hear, goiters have been made to vanish, lost color of hair and skin have been restored, diabetes has yielded to bionopathic treatment." It is further related that "even cancer, rheumatism, and constipation have given way to the subtle power of the bionopath according to this circular; in fact no disease can successfully resist the 'cold black ray' that 'feeds the sick atom.'"

According to a report of our Special Agent Henderson, Michael Joseph McGranaghan, licensed chiropractor of San Francisco, on December 27, 1926, was charged with a violation of the Medical Practice Act, the charge resulting from the death of a boy which is reported to have occurred in McGranaghan's office on September 16, 1926, said death resulting from the giving of an anesthetic, it being held that the giving of an anesthetic by a licensed chiropractor constitutes a violation of the Medical Practice Act. ("News Items," November, 1926.)

According to the San Francisco *Examiner* of January 30, 1927, accusations against Orlando Edgar Miller,

psychologist and promoter of varied enterprises, continued to accumulate yesterday, one of which took the form of a third warrant charging grand larceny. Warrants charging embezzlement and violation of the corporate securities act were issued against him on Tuesday on complaint of two women. Orlando Miller has been featured in news items in various sections of the United States for several years. The files of the Board of Medical Examiners show reference to reports by national better business bureaus, local better business bureaus, newspaper articles published in California and elsewhere, all relating to the activities of this individual. ("News Items," June, October, November, 1926.)

The photograph of the individual who, posing as Alma Stevens Pennington, a legitimate practitioner of San Francisco, attempted to obtain an Illinois and a Michigan certificates by fraud, has been identified as that of Agnes Martin, a nurse formerly employed in the state hospital at Rockville, Indiana, and now alleged to be Mrs. A. E. Robertson of Detroit, Michigan. Investigation has disclosed that this individual, under the name of Pennington, pursued a short course at Rush Medical College some years ago.

Howard Lee Moffatt, M. D., found guilty by the Board of Medical Examiners at the October meeting of violation of the provisions of Section 14 based on narcotic charges, on February 1, 1927, was placed on five years' probation, the Board of Medical Examiners ordering that during said period he shall not apply for or possess a federal alcohol or narcotic permit. ("News Items," August, September, November, and December, 1926.)

Eldridge R. Morlan, M. D., Fellows, California, was called before the board at the February, 1927, meeting on a charge of alleged illegal operation and a partial hearing was held, the case being continued to the June meeting.

"In an opinion rendered by Special Master in Chancery, H. M. Wright, and served on counsel yesterday, it was held that Richard J. Montgomery would recover his property in Oakland, valued at \$50,000, without repaying Prof. Charles Munter the amount which Munter advanced on the property . . ." It is related that Montgomery deeded his property to Munter without consideration and while under a hypnotic spell, alleging that Munter, a lecturer on public health, of New York, while practicing his healing art in San Francisco, treated and hypnotized Montgomery, it being related that during the treatment Munter used a certain formula whereby he placed one hand under the back of the neck and stroked the forehead of the other, repeating slowly a formula somewhat as follows: "Relax! Relax! Relax! All worries are gone! All pains are gone! No one can influence you but Professor Munter, and that only for good. You must have confidence in Professor Munter, and everything will come out all right. Now you will go home and sleep like a baby . . ." —San Francisco *Chronicle*, January 18, 1927.

Although the license of Arthur Barris Nelson to practice in California was revoked by the Board of Medical Examiners, July 13, 1926, it has been reported that he has written several prescriptions for narcotics. The records of the Board of Medical Examiners show that on July 19, 1926, we notified the Internal Revenue Service, Narcotic Division, that Doctor Nelson's license to practice had been revoked, and on inquiring of them regarding Doctor Nelson's continuing to write narcotic prescriptions, we were informed that Doctor Nelson had applied for his narcotic tax stamp prior to the date of revocation of his license, and if the same was not surrendered, the narcotic enforcement agents could not proceed against Doctor Nelson for writing narcotic prescriptions. Under this theory it would seem that an individual who obtains his narcotic stamp prior to such time as his license to practice in this state might be revoked, could continue to write narcotic prescriptions during the current year for which said narcotic tax stamp was issued without molestation from the federal authorities, unless said individual voluntarily surrendered his tax stamp. This seems to be a paradoxical situation which should be corrected in the interest of law enforcement.

According to the report of our Special Agent Carter on December 14, 1926, Mollie Newkrug, former applicant to this board for a midwife certificate, is reported to have pleaded guilty to a charge of violation of the Medical Practice Act, whereupon the court sentenced her to pay a fine of \$100 or serve sixty days in the county jail, the fine thereupon being paid. On her reception room, near the door, and on the windows, were signs reading "Dr. M. Newkrug," and on certain bottles, containing oils, etc., were labels at the bottom of which appeared "Dr. M. Newkrug."

I. M. Noble, named in a warrant as the associate of Orlando Edgar Miller, mentioned above, was arrested yesterday by detectives Thomas Curtis and Thomas Reagen.—*San Francisco Chronicle*, January 21, 1927.

According to the report of our Special Agent Carter, complaint was filed on January 12, 1927, in Riverside County, charging Burton C. Platt with a violation of the Medical Practice Act, it being related that he is reported as treating various diseases, evidently intending to evade the law by calling his medicines "foods." It is stated he first examines the patients by feeling the pulse, looking at the tongue, asking questions, feeling down the spine with his hands, etc., then tells them what's the matter with them. He usually calls once a week and examines the patient. The records of the Board of Medical Examiners as far back as 1912-13, indicate that Platt was practicing medicine at that time under the guise of "food," and is alleged to have taken large sums of money from the people in the Van Nuys section. A pamphlet entitled "American Institute of Oriental Medicine" reproduces a photograph of "Dr. Burton C. Platt, vice-president and general manager, American Institute of Oriental Medicine." On the second page of the pamphlet appears a photograph followed by a biographical description of T. G. Hing, director "American Institute of Oriental Medicine." This pamphlet came to us some years ago in connection with our investigation of a Chinese herbalist in San Jose.

Following an investigation of more than a month, Dr. William Jules Poll, head of the Tujunga Sanitarium, was arrested yesterday by federal narcotic agents Jourdan, Parent and Monroy, with Pasadena detectives and member of the State Board of Pharmacy on a charge of issuing scores of fraudulent narcotic prescriptions. . . . According to federal agents the sanitarium head has been involved in narcotic investigations on previous occasions and has paid fines for violating the state Poison Act (*Los Angeles Examiner*, January 28, 1927). This individual is not licensed in California. ("News Items," November, 1926.)

"Volunteering to be committed to the Southern California State Hospital at Patton for treatment as a narcotic addict, Dr. A. M. Pond, prominent Upland physician and former president of the Iowa State Medical Society, yesterday escaped a one-year sentence in the county jail for driving an automobile while intoxicated. . . . On the physician's agreement that he be voluntarily committed to the state hospital, Superior Judge Allison suspended a one-year jail sentence and ordered Doctor Pond committed to Patton for two years or until paroled or discharged from that institution. 'This court does not wish you to get the idea that the crime to which you have pleaded guilty has been overlooked,' Judge Allison stated. 'The combination of liquor and an automobile forms one of the most serious menaces with which we have to contend today. It seems a pity that a man of your recognized ability in your profession has allowed yourself to slip so far as to be guilty of the charge and to allow yourself to become addicted to the use of narcotics. Do not overlook the fact that the charge to which you have pleaded guilty is a matter of record, and you are ordered to report to this court if you are released from the state hospital prior to the expiration of your term there.' Doctor Pond told the court he had used narcotics for a period of about two years. . . ." ("News Items," December, 1926.)

John J. Richstein, M. D., was found guilty of violation of Section 14 of the Medical Practice Act relating to

illegal advertising, and on February 1, 1927, was placed on probation for a period of five years.

Paul S. Sandfort, alleged physician, who recently pleaded guilty in Berkeley to a charge of violation of the Medical Practice Act, according to the *San Francisco Examiner* of January 22, 1927, was called before Superior Judge Warren B. Tryon of Alameda County "on a citation charging contempt of court in his failure to pay \$125 a month to his present wife, Violet Sandfort, now suing him for separate maintenance. ("News Items," January, February, and May, 1926.)

"Dr. William Shore, arrested Tuesday night by county authorities, and fined \$200 the following day for possession of alcoholic liquor, was fined \$500 by Judge Thomas Meilandt, city recorder, Thursday afternoon, when he pleaded guilty to a similar charge made by the city. Following upon the raid and arrest Tuesday, Doctor Shore's garage was raided by Chief of Police Mosher and city officers who obtained ten gallons of raw alcohol buried in the ground. . . ."—*Oxnard Courier*, January 8, 1927.

Newton B. Siler, M. D., found guilty at the October meeting of the Board of Medical Examiners on a narcotic charge on February 2, 1927, was placed on probation for a period of five years, during which time he shall not possess or apply for a federal alcohol or narcotic permit.

The January, 1927, issue of the *Stirring Rod*, Sidney J. Wolf, editor, 300 Broadway, San Francisco, a journal circulated among the drug trade, printed an article assailing the doctors of California, and particularly the Medical Practice Act, the article being signed G. D. Johnson. Among the statements in the article appeared the following: "About a year ago pharmacist was arrested for practicing medicine without a license for selling over the counter a box of female pills advertised and sold throughout the United States. A jury acquitted him. . . ."

Reference to the violator files show that a druggist named G. D. Johnson was arrested in Stockton on more than one occasion on the charge of violation of the Medical Practice Act, and that on December 3, 1923, he pleaded guilty and was sentenced to pay a fine of \$150. In March, 1924, another complaint was filed.

In the latter part of 1925 reports of our investigation department indicated that Mrs. S. called on G. D. Johnson at the Kintado Drug Store, Stockton, that he took her to his residence and, according to her story, made a physical examination and thereafter is alleged to have performed some sort of an operation.

On January 4, 1926, it was reported that a Stockton police officer, on police warrant, took from G. D. Johnson's residence various instruments, including a spectrum, forceps, probes, stethoscope, about forty hypodermic needles, etc., and that he was thereafter charged with violation of Section 274 of the Penal Code, as well as with violation of Section 17 of the Medical Act.

On April 8, 1926, Mr. Johnson was acquitted on the Penal Code charge, and on November 8, 1926, found guilty of violation of the Medical Practice Act and sentenced to pay a fine of \$500 and serve five months in the county jail. Notice of appeal was given when sentence was imposed.

Is it to be wondered that Mr. Johnson urges that "something should be done to take away some of the powers of the State Board of Medical Examiners," perhaps so he may be able to use the various instruments and continue his practice as above described. ("News Items," February and September, 1926.)

Junsai Watanabe, found guilty by the Board of Medical Examiners at the July meeting following his conviction of "social vagrancy" in the courts of San Diego came before the board at the February meeting just closed, presenting a court order setting aside the verdict of conviction entered several months before. As a consequence, on February 2, 1927, the charges against Junsai Watanabe were dismissed.

"Dr." is a title to be used only by those privileged by a license from the State Medical Board. For that reason E. O. Tilburne, said to have attached the title to his own name without permission of the medical board, came before Judge McLucas today for arraignment. . . ."—*Los Angeles Record*, January 17, 1927.

READERS' FORUM

Santa Barbara, Calif.,
January 28, 1927.

Dear Editor: I enclose a copy of the protest which I, as president of the American Association for Medical Progress, Santa Barbara County branch, have made against the Heisinger anti-evolution bill.

You will undoubtedly agree with me that any restrictions placed upon the teaching of biology in our schools may very well have an adverse effect upon the broader knowledge of such a subject with which our future medical students should be equipped. I would suggest that, if you have not already planned to do so, you make a similar protest on behalf of the State Medical Society to Mr. W. M. Byrne, chairman, Committee on Education of the Assembly. Also let us have one of your vigorous editorials on the subject in your journal, hoping thereby to stir the physicians of the state, many of whom are on school boards, to protest. I would also appreciate it if you could give some publicity to my protest as president of the American Association for Medical Progress. If we bestir ourselves the bill can be killed in committee as was done in Alabama last week.

Sincerely yours,
GEORGE E. COLEMAN, President.

P. S.—Sessions of the committees are held during the thirty day recess which began January 21. A brief of protest by the Science League of America, Inc., has already been sent.

Santa Barbara, Calif.,
January 28, 1927.

Mr. W. M. Byrne, Chairman,
Committee on Education of the Assembly,
Sacramento, Calif.

Re: The Heisinger Anti-Evolution Bill

Dear Sir: The American Association for Medical Progress was organized to aid in safeguarding the public health. As a means to that end it is primarily occupied with the dissemination among laymen of elementary medical knowledge, authentic and reliable and more particularly that gained by experimental research.

A complete understanding of this knowledge and appreciation of the necessity for the preventive measures against disease which are found¹ upon it can be acquired readily only by those whose minds have been prepared by the unrestricted comparative study, during their school years, of the anatomical, physiological and other biological relationships which exist between man and the lower animals.

The belief is practically unanimous among those who specialize in and teach the biological sciences that man arose successively from lower forms and that his ancestry logically must be placed in that animal kingdom. Whether this truth is self-evident or not can be judged only by those most competent to weigh the incontrovertible evidence in favor of it and these are the science teachers in our schools and universities.

No restrictions should be placed by the laws of our state upon the exposition by teachers to students of all the data accumulated by scientists and the obvious conclusions to be drawn therefrom. The anti-evolution bill proposed by Assemblyman Heisinger distinctly places such restrictions upon the teaching of biology.

As president of the American Association for Medical Progress, Santa Barbara County branch, I wish to register my vigorous protest against the favorable consideration by your committee of this bill or any modification thereof which would prohibit absolute freedom in the teaching of science.

Yours respectfully,
(Signed) GEORGE E. COLEMAN, President.

Pacific Grove, Calif.,
January 30, 1927.

To the Editor: I thought you might be interested in knowing that the State Board of Education has caused to

be deleted from public school textbooks on physiology a passage stating that disease is real, and that physical as well as mental measures should be taken for its cure.

This was done, of course, at the instance of Christian Scientists, and my authority is the latest annual report of the Science League of America, whose headquarters is at 509 Gillette Building, 830 Market Street, San Francisco.

A letter which I wrote to the Board of Education asking them if it could be true that they had so stultified themselves was not answered.

It seems to me that something should be done about this, or the Board of Education may go still further, and as I have three children attending public school, I do not take kindly to such damned nonsense.

Vallejo, Calif.,
February 12, 1927.

Dear Editor: Permit me to congratulate you upon the two editorials of the last issue of CALIFORNIA AND WESTERN MEDICINE: "Who are the Indigent" and "The Proposed Government Monopoly of Industrial Medicine." These editorials are convincing and are worth the price of a year's subscription in themselves. Let's hear the rest!

ROBERT B. DEMPSEY, M. D.

Heliotherapy in Relation to Treatment of Tuberculosis of Spine in Children—Ralph K. Ghormley, Boston (*Journal A. M. A.*), records his observations of sixty-three cases of tuberculosis of the spine at the New England Peabody Home for Crippled Children in Newton Center, Massachusetts. Of the sixty-three patients, for the most part children under 10 years of age, all but four had the onset of the disease before the age of 6 years, and in forty-three of the remaining fifty-nine cases, the disease began before 3 years of age. The value of the weight chart as a guide to treatment is emphasized. The climate of New England and particularly that part around Boston is at times not mild. The yearly average percentage of possible sunshine is 57. During the months of November, December and January, about 48 per cent of possible hours of sunshine are available. From June through September there is about 63 per cent. There is a definite tendency toward a general loss in weight during the winter months, while during the summer months a marked rise occurs. Artificial light of the mercury vapor quartz type is now used as a substitute for sunlight on cloudy and cold days. So far, experience has not shown any striking results from this form of therapy. It seems to have a definite tonic effect in some cases and produces a distinct pigmentation. Calcification, both in the spine and in the abscesses not drained, represents a more striking change than is seen in cases treated without heliotherapy. Whether there is a specific action of the sunlight toward this in tuberculosis has not been proved. In a case cited the roentgen-ray examination showed calcification throughout the lesion and gradual diminution in the size of the psoas abscess with calcification. At autopsy the spine and psoas abscess were removed. These have been sectioned and thoroughly studied. Nowhere, either in the spine or in the walls of the abscess, is there any evidence of active tuberculosis. There is healing by fibrosis, and the marrow spaces of the involved vertebrae show only the normal cellular constituents of vertebrae in a child of that age. The contents of the calcified abscess were not hard, but were of the consistency and appearance of wet chalk. The spine on gross examination was firm and solidly fused over the diseased area. Ghormley feels that this case furnishes definite proof that the disease in the spine may be healed by heliotherapy. Success in improving deformity depends on the localization and particularly the extent and duration of the disease, and early diagnosis followed by adequate treatment under constant observation will result in healing with slight, if any, deformity. Though the advantages of heliotherapy are well known, the calcification in the lesion and in the abscesses is an important change, and the altered reaction of the tissues through allergy may be better sustained under heliotherapy and thus healing favored.





WILLIAM TAYLOR McARTHUR
President California Medical Association
1926-1927

